NEW EQUIPMENT DIGEST

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May, 1957

Volume 22—Number 5

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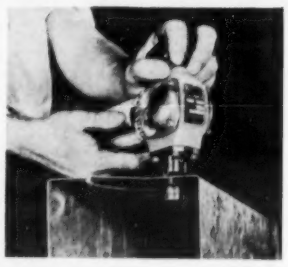
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

SHEET METAL NIBBLER
works on punch and die principle



Continuous production work in all types of sheet metal can be performed by the No. 16 nibbler which operates on a punch and die principle. Tool punches out small, rectangular pieces at about 3300 high-intensity strokes per minute, leaving a smooth edge without bending or curling the material. It cannot be overloaded and operates without vibration or distortion. Cutting die is high speed "nitrided" steel, and punch is reversible for double life. Adjustable stripper plate accommodates different material thicknesses. Compartment under knob provides for storage of set-screw wrenches, extra dies and other accessories. Made by **Black & Decker Mfg. Co.**, 762 E. Pennsylvania Ave., Towson 4, Md.

▲ For more details circle **NED-1 E7** on enclosed inquiry slip ▲

FORK TRUCK
hydraulic gasoline or LP-gas unit

All-hydraulic Speedlift fork trucks use a gasoline or LP-gas engine - driven hydraulic pump which actuates a hydraulic motor. Truck has no clutch, transmission, differential, drive shaft or differential axle, thereby simplifying maintenance. All controls and instruments are forward of the operator. The 4380-lb unit will turn in its own length of 84 in. (less forks) as the rear wheel turns 90 degrees in either direction. Various masts and attachments are available. Made by **Pettibone Mulliken Corp.**, 141 W. Jackson, Chicago, Ill.

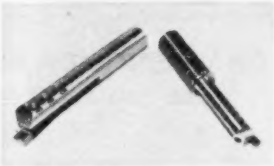
▲ For more details circle **NED-2 E7** on enclosed inquiry slip ▲

SILICONE RUBBER
combines strength, thermal stability

Thermal stability and high dielectric properties are combined with mechanical strength and abrasion resistance in Silastic 916 silicone rubber. Nontoxic and serviceable at extremely low temperatures, rubber does not "nerve up," but can be milled and compounded after shelf-aging almost indefinitely. It is suitable for molding, extruding or calendering, and can be hot-air vulcanized. Tensile strength is up to 1500 psi; tear strength, about 200 ppi; elongation, over 500 per cent; and durometer hardness is from 50 to 60 Shore A. Useful temperature range extends from −130 to over 500° F. Typical uses include oven door gaskets, aircraft door seals, cable coatings, and oxygen masks. Made by **Dow Corning Corp.**, Dept. IS, Box 592, Midland, Mich.

▲ For more details circle **NED-3 E7** on enclosed inquiry slip ▲

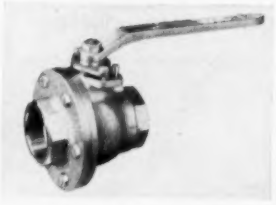
RIGID BORING BAR
makes heavy, fast, accurate cuts



Rigidity of Buck boring bars enables them to hold fine adjustment, bore deep holes to the full bar length and minimize tool marks. Screw on side of bar facilitates close-tolerance adjustment. Full length of cutters is used, and three screws lock cutters securely in bar. Because cutter is "out front" there is ample chip clearance and minimum overhang. Thirty sizes range from 25/32 to 6¼ in. Made by **Buck Tool Co.**, 322 Schippers Lane, Kalamazoo, Mich.

▲ For more details circle **NED-4 E7** on enclosed inquiry slip ▲

STAINLESS BALL VALVE
features Teflon seals and trim



Model R16ST ball valve is made of type 316 stainless steel. It has Teflon seals and trim having −100 to 400° F range, although other types of seats are available. It has low pressure float ball sealing, full ball sealing, full round flow, and opens and closes with a quarter turn. Used in chemical and processing plants, valve is presently made in ⅜ through 2-in. screwed end sizes. Handle can be put on in eight positions, and stem repacking is done without removing valve from line. Made by **Rockwood Sprinkler Co.**, 44 Harlow St., Worcester 5, Mass.

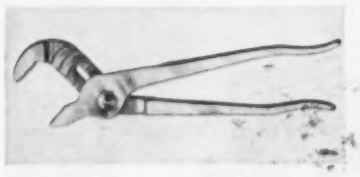
▲ For more details circle **NED-5 E7** on enclosed inquiry slip ▲

POWER PLANE
makes up to 2¼-in. wide cut

Smooth edges on work ranging from soft pine to bonded birch panels are produced by the 16-in. model 150P power plane. It makes a 2¼-in. wide cut and is available with an accessory ½, ⅞ or 1¼-hp motor. Tool features a 16-in. shoe, narrow throat and chip disposal system. Up to 3/32-in. of wood can be removed with each stroke. Depth can be adjusted while planing. Cuts of any angle from −15 to 45 degrees can be made. Motor unit is interchangeable with standard routers and shaper tables made by **Porter-Cable Machine Co.**, 108 Exchange St., Syracuse 8, N. Y.

▲ For more details circle **NED-6 E7** on enclosed inquiry slip ▲

RIB JOINT PLIERS
have wide range of jaw openings



Tongue and groove locking mechanism of rib joint pliers take the tension under pressure instead of the pin. Wide range of jaw opening adjustments offers a sure grip without danger of slippage. Available are 5-in. size with three jaw adjustments and 10-in. standard and heavy duty sizes with six adjustments. Made by **Owatonna Tool Co.**, 436 N. Cedar St., Owatonna, Minn.

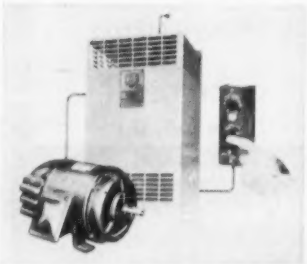
▲ For more details circle **NED-7 E7** on enclosed inquiry slip ▲

PORTABLE VIBRATION METER
has 0.1, 1 and 10-mil scale ranges

Portability of this 24-oz model 305 vibration amplitude meter makes it practical for use in inaccessible places. Unit operates on either A or B Mallory or Eveready batteries. Meter is used for inspection, production and preventive maintenance of electric motors, fan assemblies, blowers, compressors and any rotating equipment where a balance or vibration specification is prescribed. It is calibrated directly in 0.1, 1 and 10-mil full scale ranges. Other major applications include machine tool maintenance and monitoring of power generating equipment. Made by **International Research & Development Corp.**, Dept. A, 797 Thomas Lane, Columbus, O.

▲ For more details circle **NED-8 E7** on enclosed inquiry slip ▲

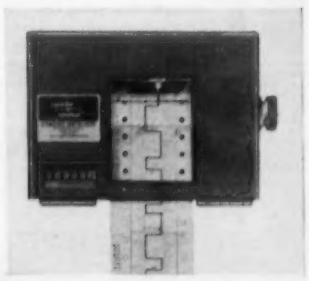
VARIABLE SPEED DRIVE
electronic unit has 4 hp maximum



Compact, packaged and redesigned V*S Jr. variable speed electronic drive consists of a rectified power control panel, an operator's station and a variable speed drive motor. Now available in 220 and 440-v models in sizes from ¾ to 4 hp, it provides wide-range adjustable speed for all machine applications requiring precise control of variable speeds, including inching and jogging. It will operate from as low as 23 rpm for intermittent set-up duty, up to 2300 rpm. An auto-transformer enables use on 110, 380 or 550-v ac lines. Made by **Reliance Electric & Engineering Co.**, Dept. SP, 24701 Euclid Ave., Cleveland 17, O.

▲ For more details circle **NED-9 E7** on enclosed inquiry slip ▲

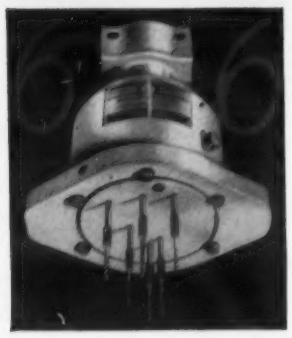
TIME RECORDER-TOTALIZER
for machines, processes or systems



Means of accumulating data on operation of machines, processes or systems is provided by the improved model SR recorder-totalizer which has a continuous sprocket-driven strip chart that maintains accurate timing. Replacement chart rolls contain 250 lineal feet of continuous, chronologically printed chart, available in speeds from 1 iph to 10 ipm. The elapsed time meter registers accumulated "on" or productive time. An operations counter is optional. Registration is in hours and tenths or minutes and tenths. A transparent autograph access window allows viewing of the recorded chart and marking of notations on the chart. Price is $65. Made by **Standard Instrument Corp.**, 657 Broadway, New York 12, N. Y.

▲ For more details circle **NED-10 E7** on enclosed inquiry slip ▲

New Series 6/6 ZAGAR
GEARLESS DRILL HEAD



√ Multi-Hole Drilling
√ IN ANY MATERIAL
√ NEW LOW PRICE
√ Quick Delivery, Too!

Do you want to drill profitably up to 6 holes simultaneously? Here's our answer. For less complicated drilling (and tapping) jobs, up to 3½" spread, but for high production, Zagar's "66" fills the bill. Maximum drill diameter —⅝". You'll like both our deliveries and our price.

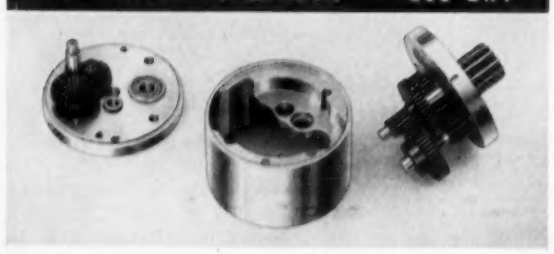
Turn over your hole problem to the Zagar representative—or, phone REdwood 1-0500 for his name. He'll come quickly.

ZAGAR, INC. 23880 LAKELAND BOULEVARD, CLEVELAND 23, OHIO

Zagar TOOLS FOR INDUSTRY and SPECIAL MACHINERY

▲ For more details circle NED-11 E7 on enclosed inquiry slip ▲

FINE FINE PITCH **GEARS** 20 to 200 D.P.



SPECIAL GEARS
COMMERCIAL AND PRECISION

SPECIAL GEAR BOXES
ENGINEERED AND BUILT
TO MEET YOUR REQUIREMENTS

STOCK GEARS
20 to 64 D.P.

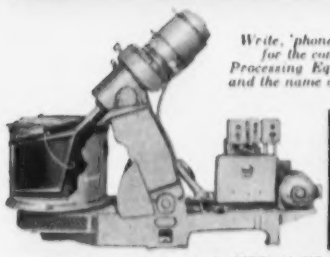
Arizona Gear & Manufacturing Co.
3544 East Ft. Lowell Road
Tucson, Arizona

▲ For more details circle NED-12 E7 on enclosed inquiry slip ▲

Processing Equipment TROY

The right Processing Equipment means Profits for your plant operation. The Troy line of Angular Mixers, Colloid Mills, Roller Mills and Unit Blenders gives maximum performance, with minimum upkeep.

Test and trial runs of your samples in Troy Mixers and Mills can be made. Just address requests for this service to our Experimental Laboratory.



Write, 'phone, or wire today for the complete Troy Processing Equipment Catalog and the name of nearest dealer.

TROY
Engine & Machine Co.
70 Parsons Street
Troy, Pennsylvania

▲ For more details circle NED-13 E7 on enclosed inquiry slip ▲

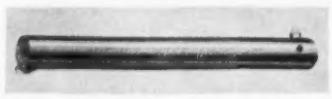
A Barometer of Business

Reader interest as reflected in our inquiry returns has always been a good barometer of business conditions. We have just entered a record-breaking three-month count in our books. We believe this indicates a continued high level of business generally, with particular activity in the metalworking field.

We are gratified with the active reader response to our editorial and advertising content, and are happy to serve so many readers throughout industry. It adds to our incentives to keep you informed of "what's new" in industrial equipment and materials in concise, easy-to-read, time-saving product description. We sincerely welcome the thousands of new readers who are acquiring the "NED habit" and are using our practical self-mailing inquiry slip.

A. N. Gregg
EDITOR

CHATTERPROOF BORING BARS
use replaceable carbide tools



Made of No-Chat, a heavy metal that minimizes vibration, line of boring bars has rigidity and resistance to deflection. Increased speeds and feeds are permissible, and bars can be used with greater overhang for deep hole boring. Seven sizes with lengths to 12 in. are available. Cutting tools are finish ground from solid carbide. Made by **Wendt-Sonis Co.**, Dept. NE-1, Hannibal, Mo.

▲ For more details circle NED-14 E7 on enclosed inquiry slip ▲

EYE-SAVING CONTROL
user removes goggles from switch

Readily applied to any bench grinder or other hazardous machine, Eye Saver switch permits machine to be operated only by removing goggles or eye shield from the switch. Control is maintained in the "off" position by the goggles. Because operator must grasp the goggles before starting machine, safety is promoted. Switches can be provided with ratings to suit most motors. Distributed by **Harold Dessau Inc.**, Dept. NED, 25 Murray St., New York 7, N. Y.

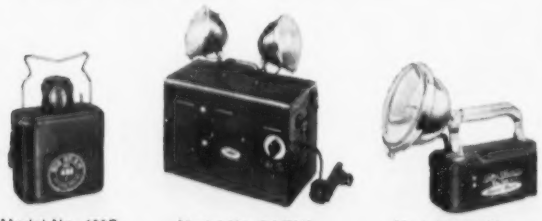
▲ For more details circle NED-15 E7 on enclosed inquiry slip ▲

Big Beam
EXPLOSION-PROOF
ELECTRIC HAND LANTERN

for SAFE LIGHT in HAZARDOUS LOCATIONS

The Model 287EX with powerful 1500-foot beam is designed for use in Class I, Group D Hazardous Locations Approved by Underwriters' Laboratories . . . (atmospheres containing gasoline, hexane, naphtha, benzine, butane, propane, alcohols, acetone, benzol, lacquer solvent or vapors, or natural gases). Also complies with U. S. Coast Guard regulations for use on tank vessels.

Spring ejection bulb prevents possibility of afterglow of filament in case of accident. Features: sparkproof, lacquered brass container and head, lead seals on container latch and rim screw, flexible brass tubing sheathed wire, pressure-type battery connectors. Other BIG BEAM Models:



Model No. 408F Flare and Lantern — Model No. 2ATW Automatic Emergency Light — Model No. 166 with Sealed Beam Bulb

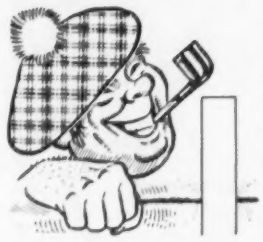
Write for Complete Information 6997

U-C-LITE Manufacturing Co. 1073 W. Hubbard St. Chicago 22, Illinois

▲ For more details circle NED-16 E7 on enclosed inquiry slip ▲

Her-r-re's a new use for-r-r or-r-rdinary wee pipe cleaner-r-rs: Use 'em for-r-r cleaning oot oily

DR-R-RILL HOLES, PER-R-RFOR-R-RATIONS and OTHER-R-R HAR-R-RD-TO-GET-AT PLACES!



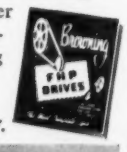
Aye, you'll never know what you can do with pipe cleaner material until you try it. Best of all, these pipe cleaners come in four stock sizes, and you ought to see how they can clean out oil, grease, metal refuse and other crud from cracks, drill holes, slots, etc. You should know, too, that this pipe cleaning material is available in coils or cut lengths. Some are made of cotton for high absorption, and some are made of rayon for strength and endurance. In fact, you can have almost any fiber you wish on the sturdy metal core. Range of stock diameters is from 3/32" to ½". A tapered Duplex cleaner is also available. Write for free samples—and let us show you that pipe cleaners are good for more than simply cleaning your favorite old briar pipe.

E. T. GILBERT MANUFACTURING COMPANY, INC.
230 South Avenue Rochester 4, New York

▲ For more details circle NED-17 E7 on enclosed inquiry slip ▲

BROWNING VARIABLE PITCH SHEAVES

Browning offers the most complete line of FHP sheaves, including 108 variable pitch sizes and types, single and double groove. All are accurately balanced, true running, easily adjusted. With fixed bore or the same *malleable* split taper bushing used in Browning sprockets, couplings, paper pulleys, and other sheaves. Made by experts in power transmission since 1886—Browning Manufacturing Company, Maysville, Kentucky.



Ask your Browning distributor or write us for Catalog V147.

Browning POWER TRANSMISSION EQUIPMENT

▲ For more details circle NED-18 E7 on enclosed inquiry slip ▲

ALLFLEX
stainless steel
FLEXIBLE
connectors

NEW STOCK SOLUTION TO ALL PIPELINE PROBLEMS.

- Dampens Vibration
- Compensates For Misalignment
- Permits Offset Movement
- Absorbs Expansion

Now available in these standard stock sizes & lengths:

Stock Sizes	Stock Lengths
¼"	12"
⅜"	18"
½"	24"
¾"	30"
1"	36"
1¼"	48"
1½"	
2"	

The corrosion, heat and pressure resistance of Stainless Steel *ALLFLEX* Connectors will solve all pipeline problems caused by too rigid connections. One piece construction with standard pipe threaded fittings gives *FLEXIBILITY plus*—in installing and in longer service life. SAME DAY SHIPMENTS!

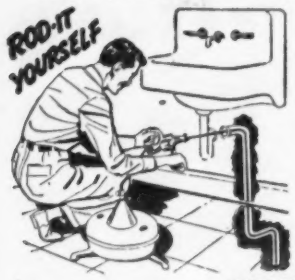
Write for full information.

ALLIED METAL HOSE COMPANY
3788 NINTH STREET
LONG ISLAND CITY 1, NEW YORK

▲ For more details circle NED-19 E7 on enclosed inquiry slip ▲

YOU MUST READ THIS!

Before you pay out another costly plumbing bill

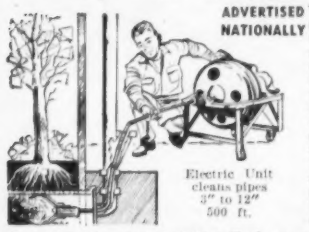


CHICAGO—May 1st—Factories, Offices, Machine Shops including Home Owners are constantly having trouble with clogged-up pipes which proves expensive in Costly Plumbing Bills—

But now—here is a **new Rodding Tool** designed to clean out the most stubborn drain & sewer stoppages. Not just an ordinary rod, but a patented unit guaranteed to make every bend up to 100 ft. A new discovery in Swedish music wire gives the rod 100% more flexibility than any other sewer cable. Yet anyone can operate this rod which is whirled down the drain in a few minutes.

ADVERTISED NATIONALLY

TOILETS, URINALS, SINKS, and FLOOR DRAINS clogged with paper, grease, rags, soap, metal chips, and sand can be cleared **saving the owner the Rodding Tools price, the first time it is used.** Cutter blades can be attached for removing roots. This new unit can be used on any ½" to 6 inch waste pipe including Septic Lines, Sewers, Laundry Tubs, Bathtubs, and avoids Flooded Basements. Obstructions give away immediately when struck by this new type of Sewer Machine.



Electric Unit cleans pipes 3" to 12" 500 ft.

We offer this new Rodding Tool on a 30-Day Free Trial to prove its value. **BUT MOST IMPORTANT IS THIS**—What is this Tool worth to your Building, Factory or in your own Home in Costly Plumbing Bills Saved! FREE BOOKLET lists latest Discoveries in Hand & Electric Units, Root Cutters, Water Impact Guns—For your own good—Fill coupon now. **No agent will call,** or write Postcard (Chgo. phone KIldare 5-1702)

MILLER SEWER ROD, Dept. N.D., 4642 N. Central Ave., Chicago 30, Ill.
Please send FREE BOOKLET on Rodding. I am not obligated.

NAME .....
FIRM .....
STREET ..... CITY ..... STATE .....

▲ For more details circle **NED-20 E7** on enclosed inquiry slip ▲

BELT VERSA-VEYORS

THE *VERSATILE* COMPLETE LINE OF CONVEYORS

SERIES 8

Heavy-duty Versa-Veyor speeds up handling, slows down costs. Tops for moving bags and boxes. Moves easily from one job to the next. 13' to 19' lengths with under-carriage.

SERIES S12A

Low-cost Versa-Veyor for moderate loads. Light weight assures portability, makes it ideal for truck loading and use over stairways. 11', 13' and 15' lengths. Strong, aluminum box-type frame.

THE BELT CORPORATION
5751 Stahl Rd. **Orient, Ohio**

▲ For more details circle **NED-21 E7** on enclosed inquiry slip ▲

PERFECTED...

AUTOMATIC OILER FOR PORTABLE AIR TOOLS!

Inject-O-Mist PAT. PEND.

- ▶ Lubricates moment tool starts!
- ▶ Oil sprays with every air pulse!
- ▶ Operates at all air pressures without adjustment!
- ▶ Reduces down-time of tool as much as 80%!
- ▶ Can be refilled with air pressure on!

SEND FOR COMPLETE INFORMATION

Carlson **PRODUCTS INC.**
DEPT. N-5, 5309 N. 24TH ST., OMAHA, NEBR.

▲ For more details circle **NED-22 E7** on enclosed inquiry slip ▲

ROTARY AIR PUMP
for compressor or vacuum service

Capable of delivering 45 cfm of free-air, model 4565 rotary-vane pump is designed for continuous duty as either a compressor or vacuum pump. Air-cooled by a 10-in. integral fan, it delivers pressure to 20 psi when driven by a 5-hp motor at 1750 rpm. For lower pressures and for vacuum to 25 in. of mercury, a 3 hp motor is used. Pulseless delivery eliminates need for an air tank. Made by **Gast Mfg. Corp.**, Dept. 52, Box 117N, Benton Harbor, Mich.

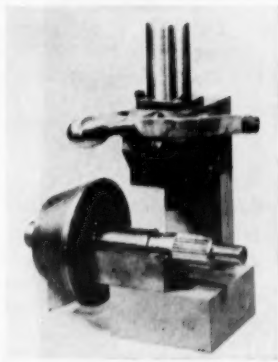
▲ For more details circle **NED-23 E7** on enclosed inquiry slip ▲

AUTOMATIC DOCKBOARD
lowers when truck backs in position

Entirely automatic in operation, Truck-O-Matic dockboard lowers from its "up" position when the incoming truck pushes against the actuating arms. Ramp is thus positioned for loading or unloading of vehicle. It also adjusts automatically to level of truck bed. Dockboard is available in 6, 8 or 10-ft models. It can be mounted on stand for installation in front of existing dock, or it can be recessed. Made by **Karl A. Herman Co.**, 33a W. Fulton St., Grand Rapids 5, Mich.

▲ For more details circle **NED-24 E7** on enclosed inquiry slip ▲

PERCUSSION PRESS
marks components at the machine



Hand - operated spring percussion press for marking metal components at production machines has a capacity of six 1/16-in. characters. Percussion spring is cocked by downward pressure on the handle. Spring is released automatically at a fixed position. Dimensions of fixtures vary according to piece part and lettering required. Compact unit can be furnished with any type base for mounting to machine. Made by **Geo. T. Schmidt, Inc.**, 1800 W. Belle Plaine Ave., Chicago 13, Ill.

▲ For more details circle **NED-25 E7** on enclosed inquiry slip ▲

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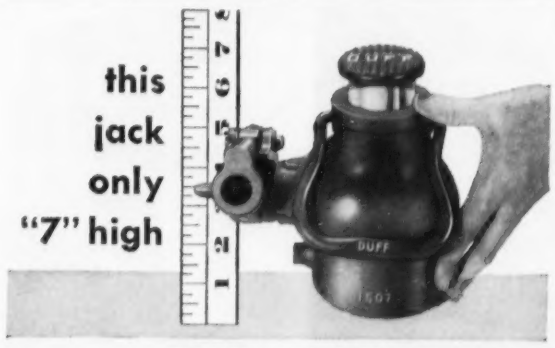
this jack only "7" high



This "Shorty" jack (No. 1507) lifts 15 tons 2½ inches yet is only 7" high.

...will raise 15 tons

It has no fluids to leak, no cup leathers to wear out, no air or vapor lock—can be used sidewise, or upside down. It's a precision engineered, ball bearing screw jack with fully enclosed one piece malleable housing, seldom needs lubrication or servicing. Thousands of these easy to operate jacks are saving time and money wherever powerful lifting is required under low set loads. Ask your recognized distributor or write for bulletin AD-12-N, Duff-Norton Co., P.O. Box 1889, Pittsburgh 30, Pa.

DUFF-NORTON JACKS
"Giving Industry a Lift Since 1883"

▲ For more details circle **NED-26 E7** on enclosed inquiry slip ▲

Cut Costs with Molded Plastics by Richardson

You can cut costs, increase profits, by replacing metal components with Richardson molded plastic parts. Molded plastic is strong, lightweight, corrosion resistant. Color is molded in. Pieces need little or no finishing.

Analyze the materials and assembly costs in your products. Keep in mind the fact that plastics are now being used for housings, washers, gears, valves, pump impellers, washing machine agitators, switches, light sockets, cameras, and thousands of other items. Each use represents savings in material, assembly, or unit costs.

For cost-cutting counsel, send a print of your product—or ask for Richardson engineering service. There's no obligation . . . and there may be profit for you.

Write to Dept. 20 for Richardson MOLDED CATALOG.

The RICHARDSON COMPANY
2798 Lake Street, Melrose Park, Ill. • Chicago Phone: Mansfield 6-8900

▲ For more details circle **NED-27 E7** on enclosed inquiry slip ▲

MAGNETIC DIES by WHISTLER

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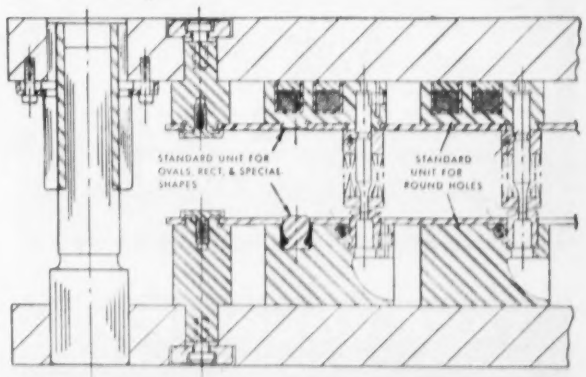

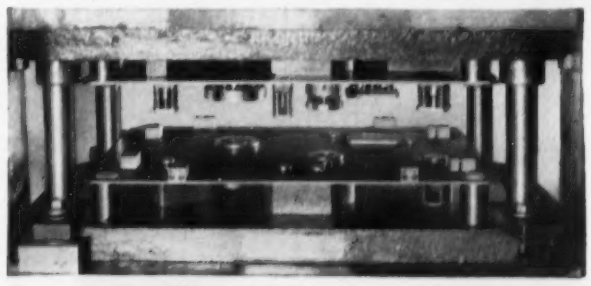

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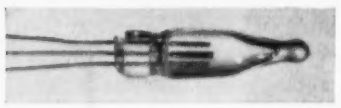
GLOW LAMP used as switching device



Cold - cathode NE-77 three-wire glow lamp is designed primarily as a switching device for use in circuit control systems. By proper application of voltage to its three leads it will control current flow or permit operation of a relay. Circuit volts are from 140 to 180 v dc, starting current is a minimum of 140 v dc and size is 1 1/16 x 1/4-in. Price is 55 cents. Made by **General Electric Co.**, Lamp Div., Dept. 166-NED, Nela Park, Cleveland 12, O.

For more details circle NED-32 E7 on enclosed inquiry slip

Induction Heating Apparatus

McDowell Electronics Inc.—Series of four radio frequency induction heating generators have RF power outputs of 190, 380, 570 and 750 w. Features and specifications of each unit are given on series of data sheets. Also available is 4-page illustrated folder on controlled soldering and brazing by induction heating. Company makes custom-built induction heating units, contracts soldering and brazing operations and consults in the field.

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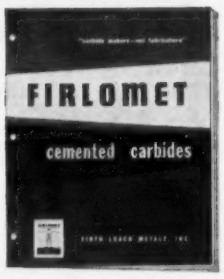

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GLOW LAMP used as switching device

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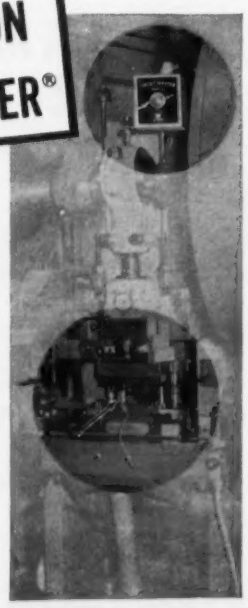

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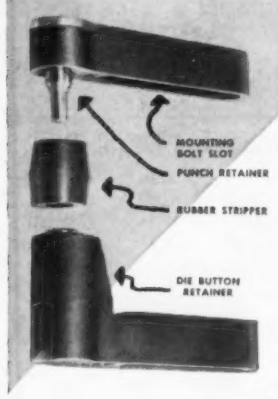

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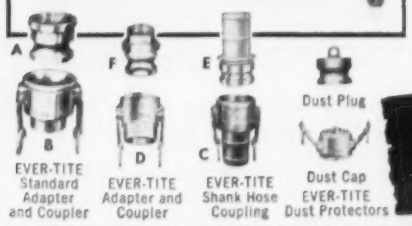

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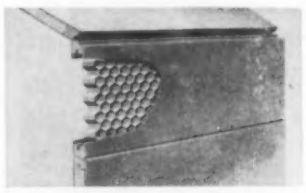
have concentrated spray pattern

Capacities from 1.5 to 1100 gpm are offered in line of Hollowjet spray nozzles. All have a relatively small diameter hollow cone spray pattern. At 40-lb pressure they produce a spray with 30-degree angle. They are made in pipe connection sizes from ¼ to 5 in. in brass, steel and stainless steel. Made by **Spraying Systems Co.**, 3211 Randolph St., Bellwood, Ill.

For more details circle NED-41 E7 on enclosed inquiry slip

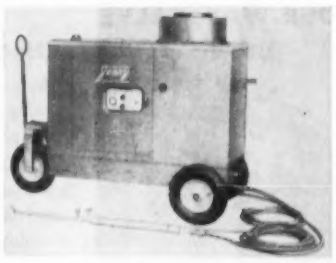
FLUSH OVERHEAD DOORS
insulation equal to outside walls



Combination of a hardboard facing and a phenolic resin-impregnated honeycomb core provide Barcol Overdoors with ability to withstand severe weathering conditions and insulating qualities equal to that of outside building walls in which they are installed. Weather-King flush panels are unaffected by moisture and natural temperature ranges. Cam-action hardware holds the door clear of stops for easy raising and lowering, yet moves it straight forward against the stops at point of full closing. Cutaway view shows sandwich construction. Closures are redwood. Made by **Barber-Colman Co.**, Dept. 5F, Rockford, Ill.

For more details circle NED-42 E7 on enclosed inquiry slip

STEAM CLEANERS
steam cleaning capacity is 180 gph



Production and extra heavy duty steam cleaning are applications for series 1800 Hypressure Jenny line of steam cleaners, designed for either single or two-gun operation. Line includes 11 models of oil or gas-fired units in stationary, portable and trailer mounted types. Units have 180-gph steaming cleaning capacity for removing dirt and grease from industrial machinery, material handling equipment, trucks and parts. Features are automatic electric ignition, independent fuel system, slow-speed positive displacement pump and alleviator hose. Certain models offer a blast of up to 480 gph of hot cleaning solution. Gasoline engine drive can be specified in place of electric motor. Made by **Homestead Valve Mfg. Co.**, Hypressure Jenny Div., Box 84, Coraopolis, Pa.

For more details circle NED-43 E7 on enclosed inquiry slip

Aftercooler and Cyclone Separator designed for cleaner, dryer compressed air

The Adams Aftercooler and Cyclone Separator are designed to efficiently condense and remove water from compressed air and process gas. Condensed moisture and entrained dirt and oil are subsequently removed in a cyclone type separator. This unit is scientifically designed for maximum removal efficiency over a wide range of flow rates.

For normal use, units are available to cool gases to within 10° F of the temperature of the cooling water. Specially designed units are available to permit a 2° F approach to cooling water temperature, for application where low moisture content is critical.

Adams Aftercoolers and Separators are available from stock to handle 20 - 40,000 cfm with 10° cooling and 25 - 19,200 cfm where it is necessary to cool within 2° F of the cooling water. Special units can be supplied to suit an unlimited range of requirements. In all cases, a pressure drop of ½ psi is assumed at a maximum working pressure of 150 psi.

This wide range of sizes enables the cost-cutting application of Adams Aftercoolers and Separators in virtually all industrial application. For further information on how R. P. Adams' units will solve your compressed air problems and save you money, write today for Bulletin 711, R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York. *ADVT*

For more details circle NED-44 E7 on enclosed inquiry slip

Another Famous Name

STERLAIRCO, INC. 260 North Elm Street, Westfield, Massachusetts
MANUFACTURERS OF USAIRCO GAS FIRED UNIT HEATERS

Joins the growing list of heating equipment manufacturers who depend on

KLIXON Snap-Acting CONTROLS

Sterlairco, Inc., of Westfield, Massachusetts, is an old customer among the list of leading manufacturers of heating equipment who have incorporated KLIXON Snap-Acting Controls in their equipment.

There are many reasons why so many designers of heating equipment specify and use Klixon Controls:

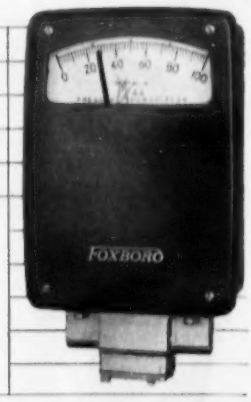
1. Applications can be worked out in the laboratory for optimum performance.
2. This laboratory performance is assured in the field because the unit can be shipped and installed as a package.
3. There are no adjustments for people to tamper with in the field.
4. Millions of Klixon Thermo-Snap Controls are in daily use in thousands of different industrial and military applications.

METALS & CONTROLS CORPORATION
Spencer Thermostat Division 1305 Forest Street, Attleboro, Mass.
KLIXON

For more details circle NED-45 E7 on enclosed inquiry slip

Combines fine engineering *and* economy!

...new FOXBORO Pressure Transmitter



- Scale easily readable at 20 ft.
- Standard time-proved component parts
- Simple calibration "on location"
- Compact integral instrument

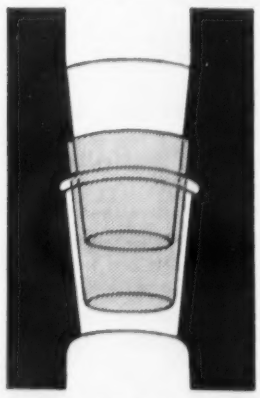
The new Foxboro M/44 Pneumatic Pressure Transmitter gives you a unique combination of fine engineering and economy. It's a compact, integral instrument . . . no attachments or "makeshifts." Utilizing standard, performance-proved Foxboro parts throughout, it assures you not only top performance, but easier stocking and servicing as well. "Convenience-design" makes calibration in the field a cinch. Drawn-steel, weatherproof, air-purged case with tough polyester plastic cover. A neat, high-efficiency, low-cost instrument for centralized operation or control. All standard ranges. Write for full details. **The Foxboro Company, 665 Neponset Ave., Foxboro, Mass.**

FOXBORO REG. U. S. PAT. OFF. INSTRUMENTATION

For more details circle NED-46 E7 on enclosed inquiry slip

ASCO "QUORN"
STANDARD TAPER SLEEVES

A new development in the field of jointed glassware is the ASCO "Quorn" Standard Taper Sleeve. The Sleeve Completely eliminates the problem caused by seizure of joints, as well as precludes contamination due to stopcock lubricants and "leaking" ground joints.



The ASCO Sleeve provides a vacuum-tight seal to a ground joint without grease wherever used.

The Sleeve is an elongated cone of polytetrafluorethylene film, .003" thick, accurately tapered to fit tightly over the male ground glass cone, in sizes from 10/30 to 55/50 inclusive.

FEATURES

- No contamination—attacked by metallic sodium only.
- No seizure or "freezing"
- Self-lubricating
- No leakage
- Vacuum-tight
- Heat resistant from −75°C to 300°C.
- Long life—can be easily cleaned, and used almost indefinitely.

PRICE

Joint Size	10/30	14/35	19/38	24/40	29/42	34/45	40/50	45/50	50/50	55/50
Each	$1.50	$1.55	$1.60	$1.75	$1.85	$2.00	$2.20	$2.40	$2.70	$3.10

5% Discount in lots of 12 or more

Available at better laboratory supply houses, or Dept. NED-5

a|s c|o ARTHUR F. SMITH COMPANY
311 ALEXANDER STREET, ROCHESTER 4, N. Y.

For more details circle NED-47 E7 on enclosed inquiry slip

Tailor-Made Lawn Sprinkler Coverage at FAR LESS Cost!

1 RAIN JET Outperforms 5 Ordinary Sprinklers

- Fewer sprinkler heads needed.
- Heads available to water various shaped areas—square, round, rectangular.
- Operates at pressures as low as 10 lbs.
- Low operating pressures allow smaller pipe.
- Heads easily cleaned on the job.
- Hillsides can be watered without erosion.
- Free Planning Service available.

Square pattern head **4.95**
Rectangular head **3.95**
Round head **3.95**
Available on stands from **6.95**

Many satisfied users throughout the United States

WRITE FOR COMPLETE SPECIFICATIONS AND INSTALLATION DATA.

RAIN JET CORP., 6253 Hollywood Blvd., Los Angeles 28, Calif.

For more details circle NED-48 E7 on enclosed inquiry slip

new GULFCROWN

lithium base multi-use grease...

This *one* tough, all-purpose grease does the work of many—on plain or anti-friction bearings, in paper mills, textile mills, steel mills, power plants, practically anywhere!

Use new Gulfcrown Grease to reduce inventory, cut lubricating costs, prevent application errors. Whether operating conditions are hot, cold or wet, new Gulfcrown Grease will save you money. Get details from your nearest Gulf Office, or write for free literature *today!*

GULF

GULF OIL CORPORATION
1822-N Gulf Building, Pittsburgh 30, Pa.

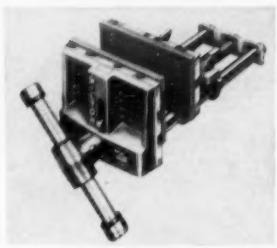
For more details circle NED-49 E7 on enclosed inquiry slip

ELECTRIC POWER ABSORBER
operates at 13,500 w continuous duty

This electric power absorber is a small cylinder which replaces 27 stick resistors rated 500 w each, yet takes up only 1/25 of the space such a bank of resistors would occupy. Another operates at 13,500 w continuous duty. Air is drawn in through circumferential slots in casing and flows over V-section resistors. Motor and fan operate either as part of load, or from independent power source. Absorber is protected against overload. Made by **Sun Electric Corp.,** Aeronautical Div., Dept. NED-1, 6323 N. Avondale Ave., Chicago 31, Ill.

For more details circle NED-50 E7 on enclosed inquiry slip

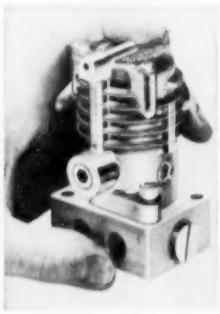
WOODWORKING VISE
bars are an integral part



Integral-assembly woodworking vise is built with the bars forced into reamed holes in the back of the front jaw. Secured with a drive pin from below, the bars cannot be loosened or removed. Vise also features mounting slots, solid aluminum handle, two-way nut on rapid-acting models which permits free sliding action and 1/4-in. machined steel back plate. Vise is available in 16 rapid and continuous acting models. Made by **Wilton Tool Mfg. Co.,** Dept. NED, 9525 Irving Park Rd., Schiller Park, Ill.

For more details circle NED-51 E7 on enclosed inquiry slip

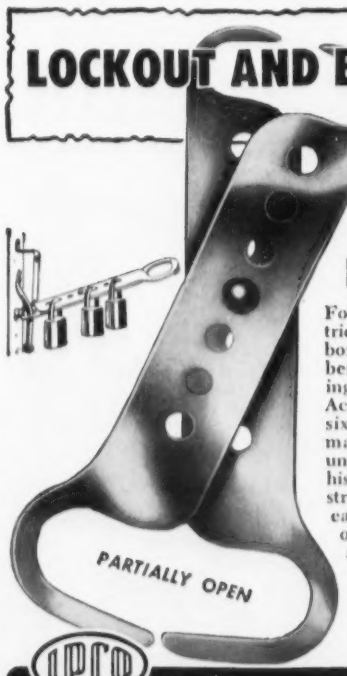
FOUR-WAY VALVE
controls double-acting cylinders



Only three working parts are contained in the Bantam pilot-operated four-way valve, a 4-in. high, 30-oz unit for control of small double-acting cylinders and similar devices. Of single solenoid design, it has fast response and bubble-tight sealing. Valve body is anodized aluminum and moving parts are stainless steel, with Hycar seals. Solenoid pilot, with coils for any alternating or direct current voltage, is interchangeable with standard Speed King pilots and is built to JIC standards. Manual over-ride and integral junction box are optional. Valve can be used with 15 to 140 psi. Ports are tapped for 1/4-in. NPT. Made by **Valvair Corp.,** 947 Beardsley Ave., Akron 11, O.

For more details circle NED-52 E7 on enclosed inquiry slip

LOCKOUT AND BE SURE!



SAFETY MULTIPLE LOCKOUT

For locking out electric switches and fuse boxes where a number of men are working on the same line. Accommodates up to six padlocks. Switch may not be thrown until last man removes his lock. Sturdily constructed yet light and easy to handle. Length overall 8¼". Provides a sound procedure for an everyday problem.

WRITE FOR BULLETIN NO. 95

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

For more details circle NED-53 E7 on enclosed inquiry slip

AN ORDERLY SYSTEM
FOR FILING • STORING • SEGREGATING

TRACINGS • BLUE PRINTS SHEET MATERIAL
ENGINEERS • ARCHITECTS DRAFTSMEN BUILDERS
PAT. APPLIED FOR

49 TUBE Model 1¾" I. D.

Model	49AB	49CD	4930	4936	4942
Depth	11¼"	22¼"	30½"	36½"	42½"
Ship. Wt.	8 lb.	14 lb.	16 lb.	19 lb.	22 lb.
Price	$6.25	$8.35	$10.85	$11.95	$12.85

FILE constructed in 200-lb.-test Corrugated Board Container.

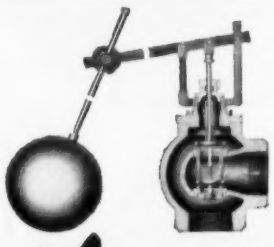
25 TUBE Model 2½" I.D.

Model	2530	2536	2542
Depth	30½"	36½"	42½"
Ship Wt.	13 lb.	16 lb.	19 lb.
Price	$10.85	$11.95	$12.85

F.O.B. FRASER, MICHIGAN
Enameled Dark Green or Medium Gray. State color.
BUY DIRECT—NO DEALERS

ROLL & FILE SYSTEMS, INC. • P. O. BOX 3863, DETROIT 5, MICH.

For more details circle NED-54 E7 on enclosed inquiry slip



low cost liquid level control

Klipfel FLOAT VALVES

On the majority of liquid level control applications, there's no need for fancy electric-electronic setups. A simple float valve, correctly engineered for the particular service, does the job just as well, at lowest cost.

Klipfel Float Valves assure dependable, trouble-free service with a minimum of maintenance.

Write today for your copy of Klipfel Bulletin 254. It gives helpful type and size selection data and complete description of the wide range of Klipfel types, styles and sizes for every service.

Klipfel VALVES, INC.
1083 LINCOLN AVE.
HAMILTON, OHIO
Export Office—1010 Schaff Bldg., Philadelphia 2, Pa.

For more details circle NED-55 E7 on enclosed inquiry slip

SAVE $2000 a year
Banish old fashioned hand sweeping

Parker FLOOR SWEEPERS

FACTORIES

WAREHOUSES

SHOPPING CENTERS

Write today for further information on the complete line of Parker Manual and Power Sweepers

PARKER Sweeper Company, Springfield, Ohio
Dept. NE

For more details circle NED-56 E7 on enclosed inquiry slip

CREOSOTED WOOD FLOOR BLOCK

PAC-A-BLOCK—the modern way of handling Creosoted wood floor block. Each pallet is unitized with 22 blocks in each unit, then palletized in amounts of approx. 25 sq. yds. Pallets are wrapped in weather resistant paper for storage out of doors, and can be stacked to save storage space. CUT that handling cost today. ORDER PAC-A-BLOCK. LCL shipments carried in stock for immediate shipment.

KRE-X—for installation, we recommend PAC-A-BLOCK's companion product KRE-X, the semi-liquid, cold process material for the application of wood floor blocks. **Hayden-Shaw Mineral Products,** 7814 W. Jefferson, Detroit 17, Michigan.

Advt.

▲ For more details circle **NED-57 E7** on enclosed inquiry slip ▲

Discover this NEW REVELATION in

Time-Saving **FINISHING!**

—a completely new slant on abrasive applications

through Brightboy's unique action of RUBBER and ABRASIVE

Brightboy's unique *rubber-and-abrasive* working action frequently reduces BURRING, FINISHING, CLEANING, POLISHING to a time-saving, single-step operation. Multi-use Brightboy comes in STOCK NUMBERS, JOB-MATCHED TO YOUR NEEDS. Does the work of "specials" plus usual finishing. Silicon Carbide and Aluminum Oxide abrasive grains. Each in grades from extra fine to extra coarse. Each in soft, firm and tough rubber binders.

Ask your dealer for Brightboy recommendations and for the Brightboy Catalog listing grains, textures, machine speeds, work suggestions. Write us if he cannot supply you or on any problem in which finishing is involved.

WELDON ROBERTS **Brightboy** RUBBER CUSHIONED ABRASIVES

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 North 13th Street, Newark 7, N.J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

▲ For more details circle **NED-58 E7** on enclosed inquiry slip ▲

WIRE TAINER

the sensible, convenient way to handle Stock

STACKING **FOLDING**

OPEN BASE **1 & 2 TON CAPACITY**

Write for circular and details

SPRINGPORT STEEL PRODUCTS CO.
Dept. NED, SPRINGPORT, MICHIGAN

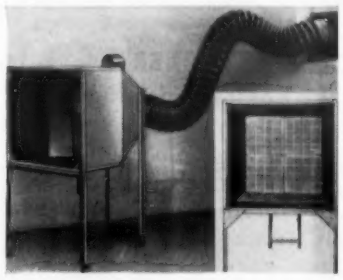
▲ For more details circle **NED-59 E7** on enclosed inquiry slip ▲

MARKING STYLUS
for use on any surface

Perma-Scribe marking stylus has a point with cutting edges that cover the base and side in a radial pattern. It is capable of inscribing permanent marking, writing or identification on almost any type of surface, including metals with all degrees of hardness, all types of plastics, wood, glass, rubber and linoleum. Price is $1. Made by **Arch Crown Tags, Inc.,** Dept. N, 277 Halsey St., Newark 2, N. J.

▲ For more details circle **NED-60 E7** on enclosed inquiry slip ▲

PORTABLE SPRAY BOOTH
for painting of small parts



Nonferrous metal fan draws paint over-spray through arrestor type filter pads of this portable industrial spray booth. Suited for painting of small parts where floor space is limited, it is offered in 35 x 33-in. and 48 x 48-in. sizes. Booth stands on four legs which can be equipped with wheels. Optional flexible exhaust pipe permits venting out any window. Easily changed filter pads are approved by National Board of Fire Underwriters. Distributed by **Atech Supply Co.,** 2970 W. Grand Blvd., Detroit, Mich.

▲ For more details circle **NED-61 E7** on enclosed inquiry slip ▲

CATALYTIC GAS PURIFIERS
capacities from 25 to 7500 cfh

Single and double-barrel Hydropure catalytic gas purifiers remove oxygen from a variety of gases, including hydrogen, nitrogen and argon. Applications for gas produced include annealing of various metals and parts; sintering magnetic alloys, tools and parts; copper brazing; and blanketing of chemical reactions. Units remove oxygen from hydrogen by causing it to combine with hydrogen to form water vapor, easily removed by a desiccant. Purifier sizes in single-barrel models are 25, 50, 100 and 150 cfh, and 250 to 7500 cfh in double-barrel models. They can accept gases with these maximum conditions: 0.4-per cent oxygen concentration; dewpoint of 35° F; and temperature of 350° F. Purified gas will have maximum oxygen content of 10 parts per million. Made by **National Cylinder Gas Co.,** 846 N. Michigan Ave., Chicago 11, Ill.

▲ For more details circle **NED-62 E7** on enclosed inquiry slip ▲

UNLIMITED OPPORTUNITIES
for saving money in heat transfer operations

High heat transfer efficiency, low cost, light weight and compact design make Tranter Platecoil the easiest, best and most economical answer to a wide range of heat transfer problems in industry. Platecoil replaces pipe coil and saves engineering, fabricating, installation, operation and maintenance costs while giving more satisfactory performance.

Fast delivery from stock

Write today for your free copy of Bulletin P-57.

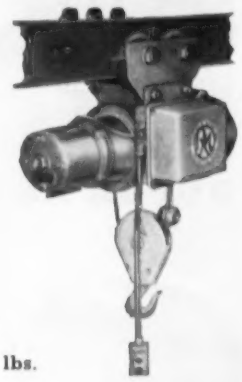
PLATECOIL® Division **Tranter Mfg. Inc.** LANSING 4, MICHIGAN

You'll find our Catalog in Sweet's Plant Engineering file.

▲ For more details circle **NED-63 E7** on enclosed inquiry slip ▲

R&M HOISTS • CRANES • WINCHES

TYPE "J3"
WIRE ROPE HOIST



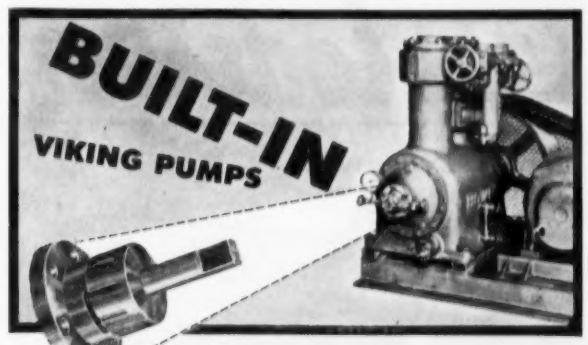
LOW PRICE $680.00*

one or two speeds optional
capacities: 1000—2000—4000 lbs.
write for bulletin 890

Lower limit switch keeps two cable wraps on drum—High torque R & M hoist motor—Two-speed ranges: 60-20, 30-10, 15-5 f.p.m. Single speed: 60, 30, or 15 f.p.m.—Lug, plain, geared, or power trolley mounting—Magnetic disc-type motor brake—Weston-type load brake. Heat treated helical cut gears, and sealed ball bearing equipped throughout. Unit cast, jig bored, aluminum alloy frame. *Price for single speed, lug-mounted hoist 1000, 2000 or 4000 lbs. capacity.

take it up with
ROBBINS & MYERS, INC.
SPRINGFIELD, OHIO | BRANTFORD, ONTARIO

▲ For more details circle **NED-64 E7** on enclosed inquiry slip ▲



..... assure positive lubrication

Howe Ice Machine Company of Chicago, Illinois, uses built-in Viking Pumps to assure positive lubrication of compressor bearings, pistons and cylinder walls. Their system incorporates a Viking 3½ gpm rotor, head and idler into an integral casing. They are rugged pumps, serving dependably 10 to 20 years. Used by Howe since 1921, Vikings have proved so satisfactory that other manufacturers have since used similar pumping systems. If you are using or planning equipment that could use built-in pumping, investigate Vikings. To start, write for Bulletin 575G.

VIKING PUMP COMPANY
Cedar Falls, Iowa, U.S.A. In Canada it's "ROTO-KING" Pumps
See our Catalog in Sweets

▲ For more details circle **NED-65 E7** on enclosed inquiry slip ▲

▲ For more details circle **NED-66 E7** on enclosed inquiry slip ▲

Nose need DUST PROOFING ?

YOU NEED . . .
DUPOR No. 1

The miniature nose mask that is as handy as a pair of glasses. So light, less than 1 ounce. So convenient it can be worn while smoking, eating, talking. Amazing 9 sq. in. filter. Vest pocket size. Can be carried, ready for use instantly. Write for details! Send $1.20 today for sample!

H. S. COVER, P. O. Box 2508
South Bend 14, Indiana
"Respirators for Industry since 1894"

For more details circle NED-70 E7 on enclosed inquiry slip

CM Lodestar®

ENTIRELY NEW... differently NEW

Built to serve you for its normal life without maintenance

Lodestar is the first truly "heavy duty" version of the small electric hoist. It will serve you without costly maintenance or interruptions in your work schedules.

FLEXIBLE LINK CHAIN

CAPACITIES: from ¼ to 1 ton. Single and 3 phase. ¼ ton model weighs only 51 pounds.

PUSH BUTTON CONTROL

$149.50 and up

WRITE US: Or call your CM distributor for literature, prices and quick delivery from stock.

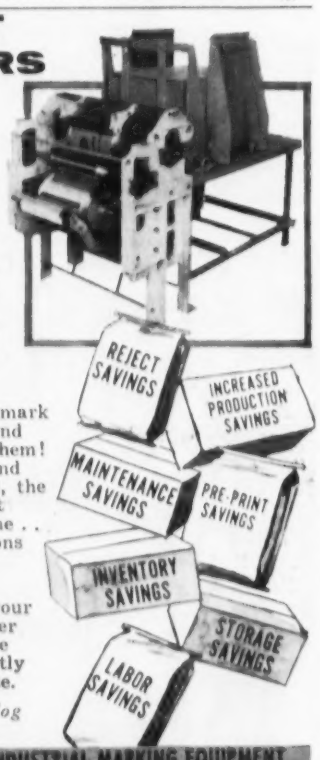
CHISHOLM-MOORE HOIST DIVISION
Columbus McKinnon Chain Corporation
Tonawanda, New York
Regional Offices: New York, Chicago, Cleveland
In Canada:
McKinnon Columbus Chain Limited, St. Catharines, Ontario

CM HOISTS AND CHAIN

For more details circle NED-71 E7 on enclosed inquiry slip

PRE-PRINT CONTAINERS for EXTRA PROFITS

. . . . . use industrial's NEW AUTOPRINTER!



With the new, modern Autoprinter, you date, mark or code multiwall bags and containers as you need them! Completely automatic and electronically controlled, the Autoprinter works right with your production line . . at up to 3,000 impressions per hour!

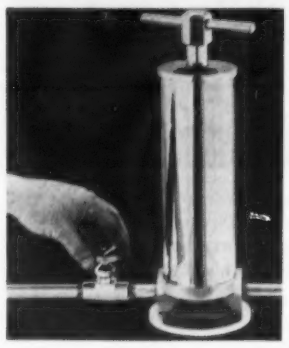
Investigate how the Autoprinter can speed your operation, save container pre-printing and storage costs, and eliminate costly manual marking expense.

Write for details and catalog today. Dept. NED

ime INDUSTRIAL MARKING EQUIPMENT company, Inc.
454 BALTIC STREET BROOKLYN 17, N.Y. MAin 4-2601

For more details circle NED-72 E7 on enclosed inquiry slip

WATER FILTERS remove submicroscopic particles



Removal of submicroscopic particles from water is achieved with MIK filtration units available in capacities from 3 to 10 gpm. Permanent cartridge produces physically pure water and is offered in 25, 10, 1 and 0.1-micron densities. Units are also available for filtration of demineralized waters, electronic wash waters, nucleonics, photography, analytical laboratories and for removal of bacteria. Made by **Heico, Inc.,** Dept. 60, 25 N. Sixth St., Stroudsburg, Pa.

For more details circle NED-73 E7 on enclosed inquiry slip

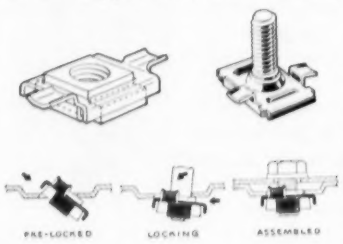
WATERLINE SHOCK ABSORBER prevents water hammer damage

Pipe lines, valve mechanisms and other equipment are protected from damage by water hammer shock by this series 1480-DP Shock Absorber. Easily installed in high-pressure pipe lines, device has a preloaded expansible tube which expands to absorb pressure shocks. It is suited for pressures above 110 psi. Though designed for use in original equipment, unit is also adaptable to existing plants and equipment. Made by **Josam Mfg. Co.,** Dept. DP-18, Michigan City, Ind.

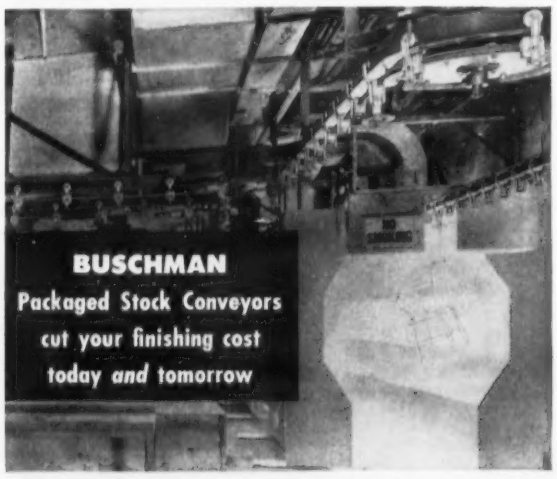
For more details circle NED-74 E7 on enclosed inquiry slip

FRONT-MOUNTED FASTENERS used in hard-to-reach locations

One of two front-mounting fasteners designed for automotive fender and other applications is a nut-retainer (upper left) which is easily drifted into locked, bolt-receiving position with a simple tool. Ample float offsets normal manufacturing tolerances and provides good pull-out resistance. Application is after painting. Second fastener retains a rigidly fixed bolt (upper right) which is tipped into a mounting hole from the front, with the bolt serving as the drifting device. Both fasteners are available in a range of sizes and panel thicknesses. Made by **Tinnerman Products, Inc.,** Dept. 14, Box 6688, Cleveland 1, O.



For more details circle NED-75 E7 on enclosed inquiry slip



Buschman BUSH-LOCK "Universal" Overhead Cable Conveyors make your production and finishing processes more profitable today . . . easily convertible to meet the changing needs of tomorrow. Standard stocked parts . . . right down to the exclusive BUSH-LOCK Trolleys and compact Drive Unit . . . pre-engineered to give you a conveyor system tailored to your plant needs. Let cost-cutting Buschman Conveyors move your products and components smoothly throughout the plant.

Buschman will cooperate with industrial washer or oven equipment manufacturers whenever your plant is being surveyed.

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THE E. W. BUSCHMAN CO.
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Put system into key handling with Telkee. Well-conceived systems are a must with top corporations today, and their first choice is Telkee.

WHAT IS TELKEE

Telkee is a sensible, easy-to-use system for keeping track of 100's or 1000's of keys. Because of three-way indexing, absolute control of every key and duplicate is guaranteed. Telkee saves time and money because it is the automatic key control system.

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TEL KEE *The* **MOORE KEY CONTROL®** *Systems*
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A SUBSIDIARY OF SUNROC CORPORATION, GLEN RIDDLE, PA.

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Time delays in automation circuits

AGASTAT

Time / Delay / Relay

When automatic machinery and circuits must be timed with repetitive accuracy (from 0.1 second to ten minutes or more) you'll find a sure, reliable answer in AGASTAT electrically-actuated pneumatically-timed time delay relays.

The AGASTAT is
- light, versatile, dependable.
- unaffected by voltage variations.
- instantaneous recycling.
- available in models which offer delays on energizing and de-energizing, two-step delays, manually-actuated time delay switch, remote push button control.

***WRITE** our application engineers for help with your timing problem.* **Address Dept. A23-55**

AGA DIVISION
Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing.

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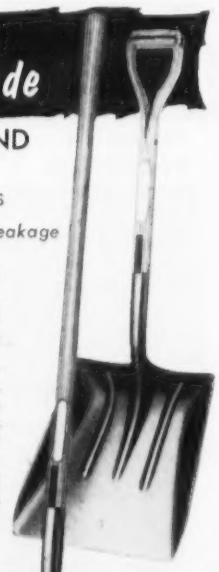
toughest scoops and shovels *made*

WOOD'S **Moly** BRAND

Mo-lyb-den-um alloy blades

Pat. Steel I-Beam Prevents Handle Breakage



Workers like them for hang, balance, and perfect finish . . . and they last 2 to 3 times as long as other grades. Blades guaranteed uniform gauge, hardness, and tensile strength. Guaranteed not to split or crack. Guaranteed uniform quality 12 to the dozen. Cheapest shovels you can buy for long hard service, and workers take care of tools they like.

THE WOOD SHOVEL & TOOL CO.
Piqua, Ohio

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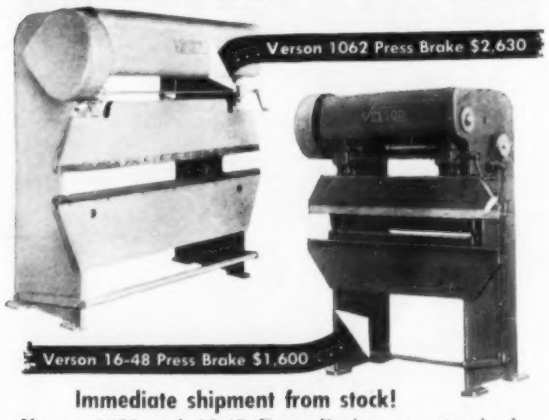
JUST TELL US WHERE YOU WANT IT DELIVERED



Immediate shipment from stock!

Verson 1062 and 16-48 Press Brakes are standard production items. You can have one from stock right now! No involved proposals, no long waits.

Standard Verson Model 1062, 16 ga. by 78" capacity, is priced at $2,630.00*; Model 16-48, 16 ga. by 48" capacity, is $1,600.00*. Built to big brake standards, these power brakes are compact and low in cost, rugged and efficient in performance.

Call for a Verson Standard Press Brake today. Both are available from stock.

*Prices, F.O.B. Chicago, less dies; subject to change without notice.

Verson

VERSON ALLSTEEL PRESS CO.

9329 S. Kenwood Ave., Chicago 19, Ill. 8300 S. Central Expressway, Dallas, Texas

For more details circle NED-80 E7 on enclosed inquiry slip

Have a HOT Lubrication Problem?

HOUGHTON HI-TEMP OILS

Houghton HI-TEMP oils provide clean, efficient lubrication under extreme heat conditions. Carbon build-up that often causes bearings to stick or wear excessively is eliminated. Three series are available through your local Houghton Man. Ask him for a copy of Houghton's latest high temperature oil literature or write E. F. Houghton and Company, 303 W. Lehigh Ave., Phila. 33, Pa.

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. . . products of
E. F. HOUGHTON & CO.
PHILADELPHIA • CHICAGO • DETROIT • SAN FRANCISCO
Ready to give you on-the-job service . . .

For more details circle NED-81 E7 on enclosed inquiry slip

When to specify

VULCAN ELECTRIC FINNED STRIP HEATERS

1. When application is for: Blower type electric unit heaters, duct heating, unit convection heating, as oven or space heaters in dryers, pump rooms, switch towers, etc.

2. When specifications call for: Steel sheath for sheath temperatures to 750°F, Chromalloy sheath for sheath temperatures to 1200°F; length — 10½" to 42½" (or higher); wattage — 500 to 3250 (or higher); voltage — 115 or 230; rugged non-oxidizing terminal posts. (Finned *tubular* heaters also available.)

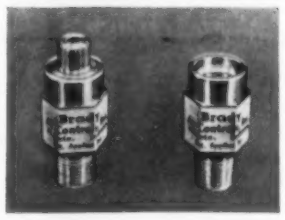
3. When you have "hot" problems: Vulcan Engineers are ready to provide special heating units — engineered to *your* needs. Write for free catalog.

VULCAN

VULCAN ELECTRIC COMPANY
DANVERS 7, MASS.
Cartridge • Strip • Tubular • Immersion Electric Heaters
Soldering and Branding Irons • Solder and Glue Pots

For more details circle NED-82 E7 on enclosed inquiry slip

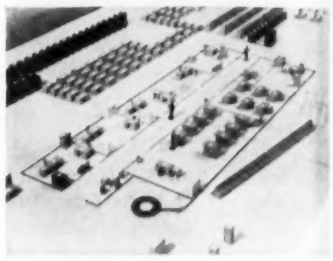
SNIFTER VALVE admits air to water lines



Small amount of air is automatically admitted to water lines by this snifter valve to prevent them from becoming waterlogged. Unit is lime and corrosion resistant, tamperproof and operates at almost zero vacuum. Applications include submersible water pump and piston pump systems. Unit is also suited for various industrial applications requiring admission of air in one direction only. It operates as both a relief and check valve, depending on how it is installed. It is offered with one and both ends threaded. Made by **Brady Air Controls Inc.**, Dept. NED, Eighteenth & Ebright Sts., Muncie, Ind.

For more details circle NED-83 E7 on enclosed inquiry slip

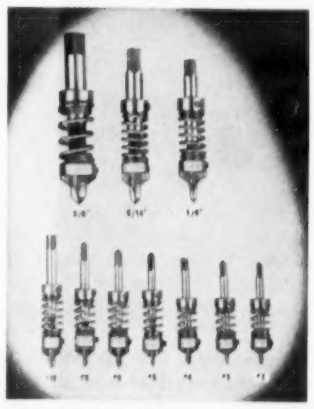
OFFICE LAYOUT MODELS offered in four scales



Better utilization of office space and improvements in office efficiency can result from use of model-making service devoted to office layout. Simplified plastic models of office equipment are affixed to a grid planning board with temporary adhesive. Models and plan boards are available in ⅛, 3/16, ¼ and ½-in. to the foot scales. Made by **Industrial Models, Inc.**, Dept. E, 2550 Sconset Rd., Wilmington 3, Del.

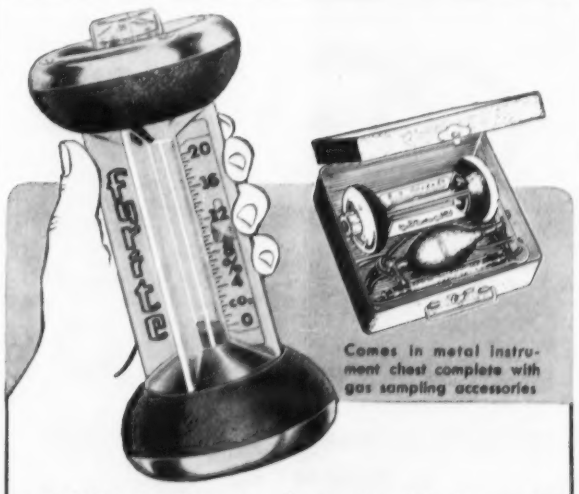
For more details circle NED-84 E7 on enclosed inquiry slip

TAP CHAMFERING TOOL deburs work during tapping



Slipped right over tap, Burr - Bit chamfering tool deburs work as it is tapped. It is now available in an extended range for No. 2 to ½-in. taps. It deburs the tapped hole as the tap is withdrawn. Adjusted to various web thicknesses of two and four-flute taps by a Nylock set screw, it can be resharpened without special fixtures. Made by **Vernon Devices, Inc.**, Dept. NE-5, 481 E. Third St., Mt. Vernon, N. Y.

For more details circle NED-85 E7 on enclosed inquiry slip



ACCURATE CO_2 Analysis in 40 Seconds!

Other outstanding features of the FYRITE CO_2 Indicator are its durable, fool-proof construction and unmatched convenience of operation. It requires no setting-up, has no valves or leveling bottle to manipulate.

The FYRITE measures CO_2 directly by the fundamental method of chemical absorption. Consequently, the reading is independent of voltage, humidity, temperature, or atmospheric pressure conditions.

Comes complete with chemical charge good for at least 300 readings. Replacing chemical merely requires removing four screws that hold top assembly in place.

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BACHARACH Industrial Instrument Company
200 N. Braddock Ave. • Pittsburgh 8, Pa.

For more details circle NED-86 E7 on enclosed inquiry slip

GET THESE TWO USEFUL MANUALS TODAY

Design engineers will find both these GRAMIX engineering bulletins extremely helpful. No. 18 covers design, metallurgical requirements, and alloy selection factors for GRAMIX bearings. No. 19 covers GRAMIX Machine Parts. Both are packed with information that every engineer should have to take full advantage of the GRAMIX process. Write for your copies today.

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THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

For more details circle NED-87 E7 on enclosed inquiry slip

Hammerlok® COUPLING LINK

MAKE UP YOUR OWN HERC-ALLOY SLINGS. No more waiting for new or repaired assemblies to reach you from the factory.

- No peening or welding
- Anybody can assemble
- Stronger than Herc-Alloy chain
- Thoroughly field tested
- Re-useable and SAFE

Made by the makers of Herc-Alloy, the original alloy steel chain. Write for instruction folder.

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PUMP CORROSIVE AND OTHER LIQUIDS

SAFE

FAST AND CONVENIENT

FOR CARBOYS, BARRELS AND DRUMS
BY HAND
Type A 2-3 gpm
BY FOOT
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A smooth flow of liquid starts and stops quickly. All parts in contact with liquid are corrosive resistant. No dangerous pressures. Relief valve.

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ORDER TODAY
ORDERS SHIPPED ON OPEN ACCOUNT

With lead tube for sulphuric, hydrochloric, hydrofluoric, etc.

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GENERAL SAFETY EQUIPMENT
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SAFETY EQUIPMENT FOR EVERY HAZARD

For more details circle NED-89 E7 on enclosed inquiry slip

short-cut to screening, sizing and separating profits

Fast, accurate SWECO Separators can add dollars to processing profits by doubling–even tripling–production per square foot of screening area. The answer is *spiral travel*, an exclusive SWECO feature that spreads material over the entire screening surface. Spiral travel gives SWECO 18" and 48" diameter Vibrating Screen Separators greater capacity per square foot than any screening, sizing or separating screen yet developed.

SWECO Separators are on the job in these and other process industries: rock products, grain, ceramics, fruit processing, food, waste disposal, laboratories, chemicals, textiles, pulp and paper, petroleum, metals, rubber.

For a data file on screening applications in your industry...and a 22-page catalog on SWECO Separators, write for Bulletin S-102-175.

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Engineers and Constructors . . . Manufacturers

For more details circle **NED-90 E7** on enclosed inquiry slip

Get smooth power out of your cylinders–

USE Schrader® FLOW CONTROL VALVES

Schrader Flow Control Valves give you positive control of compressed air to cylinders.

An adjustment screw permits quick increase or decrease in flow, from zero pressure to full, governing piston speed in either direction without reducing the force.

Schrader Flow Control Valves are available in five sizes, from ⅛" to ¾" thread. They are made of corrosion-resistant materials throughout. Their simple construction allows for easy servicing without removing them from the line. These valves are also suitable for liquids. Send today for complete information.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Avenue, Brooklyn 38, N. Y.

For more details circle **NED-91 E7** on enclosed inquiry slip

For maximum protection against leakage and corrosion...

Bulletin No. 5004 outlines the superior chemical handling qualities of this "application engineered" transfer pump. Write for your free copy today.

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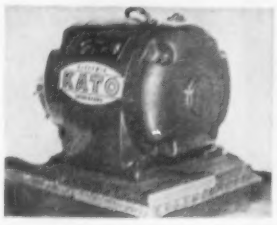
For more details circle **NED-92 E7** on enclosed inquiry slip

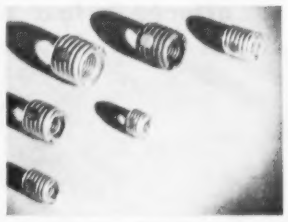
PHASE & VOLTAGE CHANGER
delivers 3-phase 230-v 60-cycle ac



Rated 500 w, this rotating electrical machine converts single - phase 110-v 60-cycle current to three-phase 230-v 60-cycle current. Frequency is held constant within a fraction of a cycle from no load to full load. Relay starting switch, capacitor, and input and output receptacles can be mounted in small box on machine, at a separate station, within a special converter frame, or in a housing that eliminates all noise. Dripproof unit operates quietly. Made by **Kato Engineering Co.,** 1464 First Ave., Mankato, Minn.

For more details circle **NED-93 E7** on enclosed inquiry slip

THREADED INSERTS
self-locking type made in more sizes



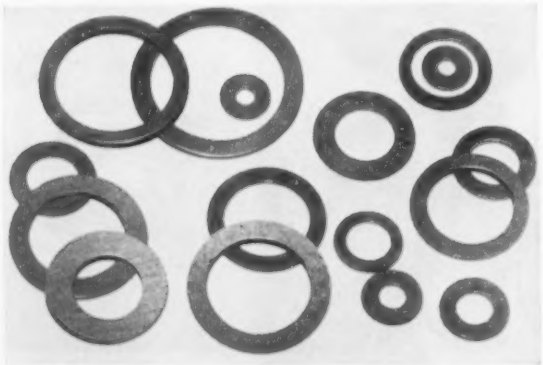
Threaded inserts employing the Nylok self-locking principle, installed in standard threaded holes and removed by a screwdriver, are available in an increased range of sizes down to No. 0. Locking action of nylon plug is provided on both internal and external threads. Inserts withstand severe vibration and temperatures from −70 to above 250° F. They meet torque requirements of Specification An-N-5 and can be reused. Made by **Nylok Corp.,** Dept. CB, 611 Industrial Ave., Paramus, N. J.

For more details circle **NED-94 E7** on enclosed inquiry slip

PROXIMITY TRANSDUCER CONTROL
operates electric circuits, counters

Extra sensitive model 4951-RAC proximity transducer control unit features a convenience receptacle wired for 115-v ac through an internal relay. When metal is detected by metal-sensing pickup, 115-v ac is delivered at the output. Standard output receptacle allows conventional plugs to be used in operating counters, electrical machinery and other devices. Unit has fast single-pole double-throw mercury contact relay which gives unit limit of 3600 operations per minute, with life of over 1 billion operations. High frequency, carrier-operated proximity transducers for general use, and a hollow coil transducer for chute applications are available with the unit. Made by **Electro Products Laboratories, Inc.,** 4504 N. Ravenswood Ave., Chicago 40, Ill.

For more details circle **NED-95 E7** on enclosed inquiry slip



New advantages with thrust washers of Nylatron® GS nylon

Polypenco Nylatron GS nylon thrust washers are now available from stock for applications where the greatest possible wear resistance is required under light thrust conditions. These definite advantages assure trouble-free, economical operation:

Longer Life—excellent wear resistance in contact with other materials.

Low Surface Friction—easy running, reduces chatter and noise.

High Heat Distortion Temperature—as high as 100°C. with no adverse effect.

Lower Cost—superior performance, trouble-free service, longer life for over-all economy.

Polypenco Nylatron GS nylon thrust washers have molybdenum disulphide as an internal lubricant.* They are produced with uniform properties, free of flash lines or stress spots. Write today for list of stock sizes and application data.

*PATENTS APPLIED FOR

THE POLYMER CORPORATION OF PENNA.
READING, PENNA.
Export: Polypenco, Inc., Reading, Pa., U.S.A.

POLYPENCO

POLYPENCO nylon, POLYPENCO Teflon†, NYLAFLOW® and NYLATRON® GS
†DU PONT TRADEMARK

For more details circle **NED-96 E7** on enclosed inquiry slip

New idea in pipe insulation

It's Snap*On, the only one-piece pipe insulation molded of fine glass fibers. Just open the seam—and it snaps on the pipe. Comes in 3 ft. and 6 ft. sections that one man can apply. Lowest applied cost and highest thermal efficiency of any insulation for cold and hot piping up to 350°. Lighter . . . tougher . . . permanent, yet reusable. Available in 62 cities, plain or jacketed in sizes up to 33". See Yellow Pages under "G-B Insulation" for local distributor or WRITE TODAY FOR NEW BROCHURE. **Gustin-Bacon Manufacturing Company,** 262 W. 10th St., Kansas City, Mo. *Advt.*

For more details circle **NED-97 E7** on enclosed inquiry slip

L-S JackLift Electric "Walkie" works for
less than $1.15 a day!

At Mosaic Tile Co., Zanesville, Ohio . . . the L-S JackLift Walkie gives *big* truck power plus *small* truck maneuverability. Unsurpassed for spotting bulky loads in narrow aisles. And especially important is L-S *working economy:* complete operational costs for Mosaic's 13-truck fleet average *less than* $1.15 per truck a day!*

L-S JackLift low-lifts up to 6000 lb. loads . . . walks 48" long loads through aisles less than 6' wide! Write to:

L-S **LEWIS-SHEPARD®**
The most complete line of materials handling equipment anywhere

"The "MASTER" Line 175 Walnut St., Watertown 72, Mass.

*Average cost for operating and maintenance, including battery charging.

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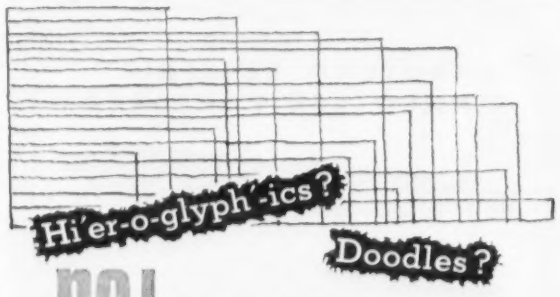


no! **Just a schematic diagram of a few of the countless shapes and sizes of Sta - Warm rectangular compound melting tanks available to meet your requirements.**

Only at Sta-Warm can you choose *exactly* the melting tank you need from such a wide and varied line of rectangular tanks having so many different characteristics and operating advantages.

"THE STA-WARM METHOD" of applying efficient electrical heat makes this variety possible . . . to your benefit.

The next time you think of compound melting equipment, think first of Sta-Warm, leader in solving compound melting problems.

Inquire today. No obligation.

"If You Can Wrap a String Around It, Sta-Warm Can Heat It for You."

Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO
Subsidiary of ABRASIVE & METAL PRODUCTS CO.

For more details circle **NED-99 E7** on enclosed inquiry slip

Even under the most severe operating conditions, Varfil Sleeving and Tubing retains its average dielectric strength. Twist it, tie it, bend it, wrap it, knot it. Remains just as pliable as when you started. Won't crack, peel or suffer dielectric loss. Heat Varfil 2000 hours at 110° C.—1,000 hours at 125° C.—and even for extensive periods at 150° C. It won't break down. Can be after-treated in baking and varnishing operations. Reacts better than other oleoresinous materials and synthetic coated tubings. Available in handy coils so you can cut the exact lengths you need . . . no waste. Standard colors. Wide range of sizes. Exceeds or meets all A.S.T.M. specifications.

Varflex CORPORATION
Makers of Electrical Insulating Tubing and Sleeving

SEND TODAY FOR FREE SAMPLE FOLDER

VARFLEX Corporation, 510 W. Court St., Rome, N.Y.

For more details circle NED-100 E7 on enclosed inquiry slip

NOW AVAILABLE IN HANDY POLYVINYL TUBES

INDUSTRY'S LEADING PIPE THREAD COMPOUND

Get *Plastic Lead Seal in this new handy 4-oz. applicator tube. Quick-opening cap can't unscrew . . . no leaking at seams . . . blunt tools or dropping won't harm . . . ideal size for tool and service kits.

Use PLS for water, steam, gas, chemical, refrigerant or petroleum services—pressures to 6000 psi., temperatures to 500°F. Seals permanently. Never hardens. Underwriters' approved.

Request Sample Tube. *Better yet, send order for special 12-tube package. Act now.*

JOHN CRANE CRANE PACKING COMPANY

6411 OAKTON ST., MORTON GROVE, ILL. (Chicago Suburb)

For more details circle NED-101 E7 on enclosed inquiry slip

1878 TRADE MARK REG. U.S. PAT. OFF.

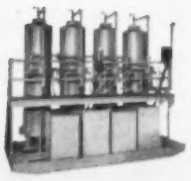
Barnstead

DEMINERALIZERS FOR PURE WATER

IN LAB QUANTITIES . . .

Extremely convenient where only a small amount of demineralized water is required. Flow rate 5 to 8 G.P.H. Pressure Bantam (at right) flow rate 5 to 25 G.P.H. Connects to any tap. No heat or cooling water needed.

...OR ON A GIANT SCALE



If you want demineralized water in production-run quantities you'll find what you need for your requirements from Barnstead's versatile and complete line of single-bed, mixed-bed, 2-bed, and 4-bed Demineralizers — all producing, at lowest cost, often as little as 5c per thousand gallons, water of the highest purity. Write for Catalog 127.

Barnstead STILL & DEMINERALIZER CO.

16 Lanesville Terrace, Boston 31, Mass.

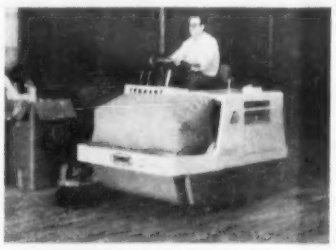
For more details circle NED-102 E7 on enclosed inquiry slip

FILE LOCKING DEVICE
secures top drawer of file cabinet

This locking device permits locking only the top drawer of ordinary four and five-drawer file cabinets. Installation is completed in a few minutes by merely drilling one hole in top section of the file. Existing office files are thus easily converted into security files to meet government regulations. Made by **Reed Mfg. Co.**, Dept. J-1, 1045 Main St., Waltham 54, Mass.

For more details circle NED-103 E7 on enclosed inquiry slip

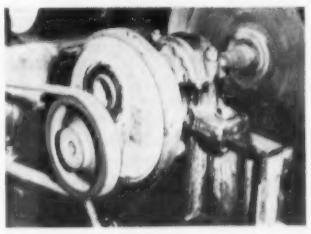
POWER FLOOR SWEEPER
sweeps 53-in. path with sidebrush



The 42-in. main brush of model 80 gasoline engine driven power floor sweeper throws dirt, debris and litter forward into a 12-cu ft floating hopper which rises when bulky litter is encountered. A vacuum fan sucks dust from the sealed-to-floor brush compartment, trapping it in a 4200-sq in. filter area fabric bag. Pushing a lever enables the hydraulic dump to unload up to 800 lb in about 10 seconds. Double clutch eliminates manual gear shifting and permits instant direction change. Machine sweeps a 42-in. path, or 53 in. with sidebrush, and has a capacity exceeding 110,000 sq ft per hour in open areas. Made by **G. H. Tennant Co.**, 721 N. Lilac Dr., Minneapolis 22, Minn.

For more details circle NED-104 E7 on enclosed inquiry slip

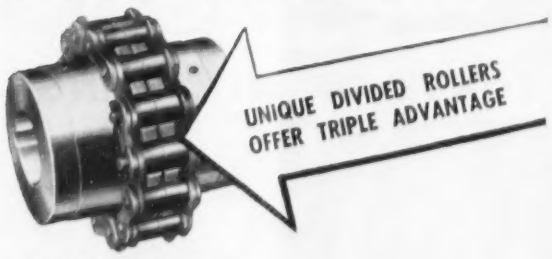
SPEED REDUCERS
single-reduction and shaft-mounted



Four new 5:1 ratio-Shaft-King shaft-mounted speed reducers provide a speed range from 60 to 350 rpm with fixed or adjustable speed Wedgbelt drives and will handle up to 25-hp loads. They are for up to 2, 2 3/16, 2 7/16 and 2 15/16-in. diameter shafts. All have standard adjustable-torque arms and incorporate large oil reservoir, friction-free oil seals and continuous splash lubrication. Made by **American Pulley Co.**, 4245 Wissahickon Ave., Philadelphia 29, Pa.

For more details circle NED-105 E7 on enclosed inquiry slip

For reliable shaft connections . . .



LINK-BELT "RC" flexible couplings

Simplicity . . . low cost . . . dependability—Link-Belt "RC" flexible couplings offer these important design and performance benefits. Unique divided roller assures equalized load . . . proper balance at high speed . . . effective compensation for shaft misalignment. These all-steel couplings are precision-made and hardened for long life. They're stocked in a wide range of sizes, and are available for shafts up to 12 inches.

Write to LINK-BELT COMPANY, Dept. N.E.D., Prudential Plaza, Chicago 1, Ill., for Folder 2363.

14,460

LINK-BELT

"RC" FLEXIBLE COUPLING

For more details circle NED-106 E7 on enclosed inquiry slip

AURAND

CLEANING TOOLS

ELECTRIC OR PNEUMATIC

Zip away SCALE RUST PAINT

Powerful rotary chipping action completely removes stubborn accumulations from iron, steel, brick, concrete, etc. with less effort. Adjustable depth shoe for controlling depth of cut. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write Dept. 14 for the money-saving facts.

AURAND MFG. & EQUIP. CO.

1210 Ellis St. • Cincinnati 23, Ohio

For more details circle NED-107 E7 on enclosed inquiry slip

PLANT SAVES ON 45 ACRES OF OVERHEAD WORK WITH

UP-RIGHT

aluminum

SCAFFOLD-ON-WHEELS

You, too, can save with rapidly assembled Up-Right scaffolds

Up-Right Scaffolds • Dept. 145
1013 Pardee St., Berkeley, Calif.

For more details circle NED-108 E7 on enclosed inquiry slip

FREE LATEST INFORMATION ON ALL STAYNEW FILTERS

Complete engineering and application data contained in the following Bulletins. Write for copies, specify Bulletin Numbers you want:

- **INTAKE FILTERS** Bulletin 100
- **PIPE LINE FILTERS** Bulletin 200
- **LIQUID FILTERS** Bulletin 300
- **AUTOMATIC FILTERS** Bulletin 500
- **DRY TYPE FILTERS** Bulletin 600
- **VISCOUS PANEL FILTERS** Bulletin 700
- **ELECTROSTATIC FILTERS** Bulletin 400

Illustrated is Model CPHS Pipe Line Filter with exclusive "double action principle."

We also make all types of special filters . . . consult your local Dollinger representative . . . no obligation. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

STAYNEW FILTERS — DOLLINGER — FILTERS FOR EVERY INDUSTRIAL NEED

For more details circle NED-109 E7 on enclosed inquiry slip

NEW METHOD ROLL MARKER SLASHES COSTS!

eliminates secondary O.D. marking operation

- for screw machines, lathes, etc.
- completely automatic
- easy to set up
- quick roll die change
- interchangeable dies
- adjustable impression depth
- heavy-duty construction

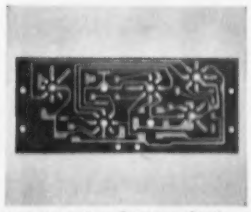
Write today for Bulletin 500-C
Inquiries from Sales Reps. invited

NMSS SINCE 1931 — NEW METHOD STEEL STAMPS INC.
147 JOS. CAMPAU • DETROIT 7, MICH.

For more details circle NED-110 E7 on enclosed inquiry slip

Remarkable cold-punching and cold-shearing laminated plastic with excellent insulating properties.

Synthane P-25



Printed circuit on Synthane Grade P-25, cold punched.

Synthane Grade P-25, only recently announced, was developed to meet the great demand for a cold-punching, cold-shearing laminated plastic with superior dielectric properties. It has high insulation resistance, and low dielectric losses at high frequencies—even under extremely humid conditions. Punches and shears at normal room temperatures. Available in thicknesses ½" to ⅜". Available also copper-clad for printed circuitry.

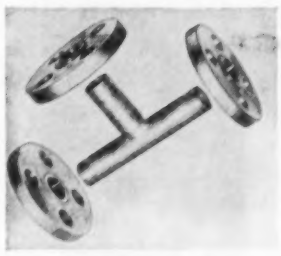
SYNTHANE — SYNTHANE CORPORATION, N. E. River Rd. • Oaks, Pa.

☐ Send me promptly information about Synthane P-25.
☐ I am interested in other Synthane Grades.

NAME _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

For more details circle NED-111 E7 on enclosed inquiry slip

PIPE INSERT FLANGES
speed repair of process lines



Breaking into existing process pipe lines and headers to tie in new equipment can be done without resorting to welding by use of these Speedline insert flanges. Press fit between insert and flange assures that pipe or fitting can be expanded into the flange ferrule permanently for a strong leakproof joint. "Tangential" feature (extra straight section) on all Speedline formed fittings allows attachment of insert flanges by simple expanding operation. Made by **Horace T. Potts Co.,** Dept. 12, Erie Ave. & D St., Philadelphia 34, Pa.

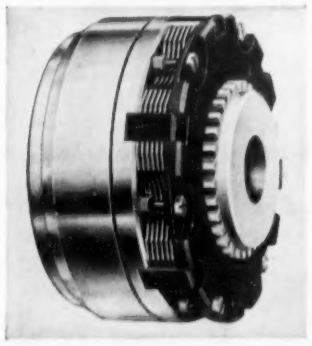
For more details circle NED-112 E7 on enclosed inquiry slip

ALUMINUM STEPS
in 1, 2 and 3-ft sizes

Heavy duty cast aluminum top with diamond tread is featured on the 1, 2 and 3-ft sizes of aluminum step stands. Sizes indicate the vertical height from the floor to the platform top. Frame is fully braced and riveted, and replaceable rubber bumpers are installed on all floor contact points. Stands weigh from 6½ to 13 lb. Made by **Louisville Ladder Co.,** Dept. NED, 1101 W. Oak St., Louisville 10, Ky.

For more details circle NED-113 E7 on enclosed inquiry slip

MAGNETIC CLUTCH
types for wet or dry operation

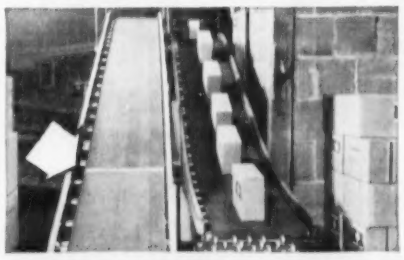


Short axial and small radial dimensions and isolation of magnetic assembly from integral mechanical parts are features of this magnetic clutch for machine tools and other applications. Stationary field or brush types are available for wet or dry operation. It has high engagement and disengagement speeds and is controlled through pushbuttons, relays or limit switches. Wide range of bore sizes is offered in the self-contained 2 to 13-in. units. Axial thrust is not produced on other machine parts and action time is not affected by shaft speeds. Made by **Fawick Corp.,** Fawick Airflex Div., Dept. A, 9919 Clinton Rd., Cleveland 11, O.

For more details circle NED-114 E7 on enclosed inquiry slip

ALLIGATOR®

CONVEYOR BELT LACING



Every Tooth A Vise*

in Long Continuous Lengths for Conveyor Belts . . . . .

- ★ Excellent for Package Conveyors, Portable Loaders, Trenching and Ditching Machines, etc.
- ★ In canneries where corrosion or rust is a problem specify Alligator made of Stainless or Monel.
- ★ For magnetic separators or anti-sparking specify Alligator made of Everdur.
- ★ Separable and smooth on both sides.
- ★ 12 sizes. For belts from 1/16" to 5/8" thick—and *any width.*

Order from Your Supply House. Ask for Bulletin A-61

FLEXIBLE STEEL LACING CO. 4664 Lexington St., Chicago 44, Ill.

JUST A HAMMER TO APPLY IT

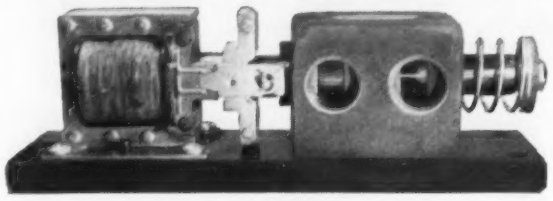
For more details circle NED-115 E7 on enclosed inquiry slip

"After 3 million cycles on our life test the Bachman Valve still did not leak and we have decided they are good enough for our application."

This leading builder of automatic packaging equipment has now standardized on dependable Bachman Valves for their latest models.

If you are building prototype or pilot machines you can benefit right now from our immediate delivery and low prices—made possible by mass production techniques.

Chances are you will find Bachman Valves will open up new capabilities for you if reliable performance in a direct-acting large capacity valve is a requirement.



Bachman S-633, 3-way, 3 port valve for 200 psi.
¼ inch.....$12.75 ½ inch.....$16.50

- ★ SPS ports with orifice up to .2 sq. in.
- ★ Ports interchangeable for supply or exhaust.
- ★ Standard O-ring seals, silicone lubricated.
- ★ Constant duty AC solenoids with optional cover. (Inrush 4 amps. holding, 25 watts at 115 volts)
- ★ Illustrated valve 8" long, weighs 2 lbs, and mounts in any position. Many other models in stock.

Write for our Bulletin M-7 or order direct with our guarantee of satisfaction.

JOHN D. BACHMAN & COMPANY
2300 SPARGER LANE BRISTOL, TENNESSEE

For more details circle NED-116 E7 on enclosed inquiry slip

SHEEHAN

METAL BELT PRESS CONVEYORS

fit most every stamping transfer operation

No slippage, due to oil and grease with SHEEHAN'S positive drive spike pulley. Where belt replacements are high with rubber and fabric belts due to sharp edges, grease and oils, SHEEHAN'S metal belts give as much as 10 times longer life. Many rubber belts cost more than SHEEHAN'S metal belts.

Hundreds in use showing great savings in large and small stamping plants.

Long life with trouble-free operation.

Write for literature and names of users.

R. T. SHEEHAN CO.
PLYMOUTH, MICHIGAN

For more details circle NED-117 E7 on enclosed inquiry slip

2 facts you should know about LA-CO FLUX (REGULAR)

For All Soft Solders

1 NON-ACID—Safe for work and workers.

2 SELF-CLEANING—Fluxes thru rust, oil, etc.

Yes, for surer, safer, faster work LA-CO FLUX offers an unbeatable combination. Its powerful fluxing action needs no scraping or wire-brushing—provides a perfect union of solder and metal. Yet it contains no acid—will not pit, corrode or stain metals or solder or harm workers. Try it just once and you'll be enthusiastic.

LA-CO specialized fluxes available for all needs. Let our research department help on any fluxing problem, without cost or obligation.

Your supplier has LA-CO FLUX; or write for sample.

LAKE CHEMICAL CO.
LA-CO BRAND
3053 W. Carroll Ave., Chicago 12, Ill.

For more details circle NED-118 E7 on enclosed inquiry slip

NEW WRIGHT Type "C" Pull-A-Ways

THREE SIZES—1½, 3 and 6-Tons

FEATURES

- Lubricated for life
- Hooks are drop-forged
- Special alloy-steel chains
- Chain sheaves of drop-forged alloy steel
- Gear teeth cut to precision limits
- Load brake is dependable and safe
- Weights: 1½-TON, 23½ lbs. 3-TON, 36½ lbs. 6-TON, 63 lbs.

Write to York, Pa., office for complete information

Wright Hoist Division
AMERICAN CHAIN & CABLE
ACCO

York, Pa., Atlanta, Chicago, Denver, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-119 E7 on enclosed inquiry slip

Cut out Floor Drilling, Bolts & Lag Screws

MOUNT MACHINES ON UNISORB

Here's the fast, easy way to install machinery. Just spot it and drop it . . . with a Unisorb pad under each machine leg.

Saves up to 30% on cost, 80% on time, checks up to 85% of transmitted vibration at its source! Easy to move, too, whenever you have to shift a production line.

Unisorb is impervious to oils and cleaning solutions. Permanent alignment, no machine "walking," precision shimming.

FREE Sample and Booklet Shows How and Why

Give your machines a modern installation . . . it pays to anchor with Unisorb. Send reader service card, call or write . . .

FE 7-5

The FELTERS Company
224 SOUTH STREET, BOSTON 11, MASS.
Manufacturers of Felt and Felt Products
OFFICES: New York, Philadelphia, Chicago, Detroit, St. Louis
SALES REPRESENTATIVE: San Francisco
Representatives in principal cities throughout the world

For more details circle NED-120 E7 on enclosed inquiry slip

How SHENANGO CENTRIFUGAL CASTINGS pay off!

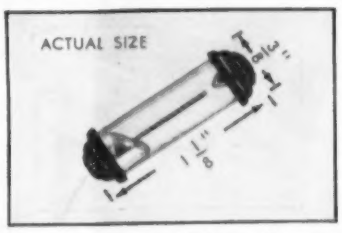
STRETCH ROLLS THAT STRETCH DOLLARS . . . for manufacturers of paper-making machinery. They're centrifugally cast by Shenango to provide complete uniformity, pressure-dense grain, freedom from blow holes, sand inclusions and other hidden defects. They'll wear longer, take abnormal stresses, loads and speeds without the risk of costly failure. If you need virtually any symmetrical part, ferrous or nonferrous, large or small, rough or finished, write to: Centrifugally Cast Products Division, The Shenango Furnace Company, Dover, Ohio.

SHENANGO CENTRIFUGAL CASTINGS

COPPER, TIN, LEAD, ZINC BRONZES • ALUMINUM AND MANGANESE BRONZES
MONEL METAL • NI-RESIST • MEEHANITE METAL • ALLOY IRONS

For more details circle NED-121 E7 on enclosed inquiry slip

MERCURY SWITCH
tilting type is noiseless

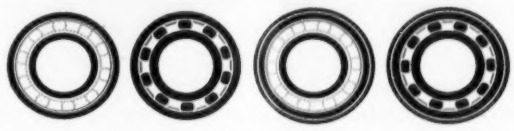


Installed in the same manner as a cartridge fuse, this tilting type hermetically sealed mercury switch consists of a cylindrical glass envelope with metallic end caps. Tilting in one direction causes mercury to bridge the gap between two closely-spaced electrode ends to close a circuit. Tilting in the opposite direction opens the circuit. Switch can also be mounted in spring clips or holders. It is 1⅛ in. long by ⅜-in. diameter and is rated at 1.75 amp, 115 v or 0.6-amp, 230 v, single-pole single-throw. Made by **Mercoid Corp.**, 4223 Belmont Ave., Chicago 41, Ill.

For more details circle NED-122 E7 on enclosed inquiry slip

INSTRUMENT BALL BEARINGS
have ¼-in. bore and ½-in. diameter

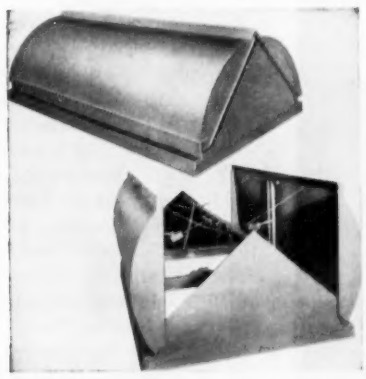
Available in both 440-C stainless steel and SAE 52100 high carbon chrome steel, MPB 814 instrument ball bearings have stainless steel snap type retainers.



They are furnished with single or double shield, with or without flange. These thin-section bearings have 0.25-in. bore, 0.5-in. OD and widths of 0.125 or 0.1875-in. Made by **Miniature Precision Bearings, Inc.**, Precision Park, Keene, N. H.

For more details circle NED-123 E7 on enclosed inquiry slip

FIRE RELIEF VENT
permits escape of smoke, heat, gas



Installed for operation entirely above the roof line, the Pyrojector fire relief roof vent permits rapid escape of smoke, heat and gases in case of fire. Double-wall dampers are opened outward by coil springs when a fusible link melts at 212° F, creating a roof opening of 28 sq ft. Venting helps to limit horizontal spread of flame. Unit is weatherproof when closed and can be used for ventilation in favorable weather. Made by **Swartwout Co.**, 18519 Euclid Ave., Cleveland 12, O.

For more details circle NED-124 E7 on enclosed inquiry slip

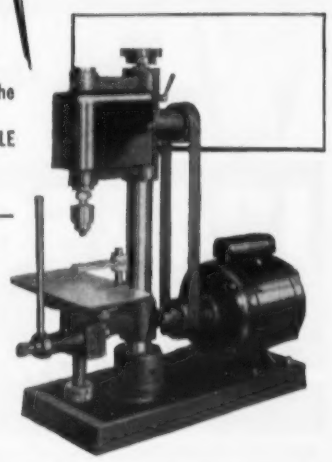
AROUND THE CLOCK AROUND THE WORLD

Eaton-Reliance Fasteners KEEP Assemblies tighter Longer

RELIANCE DIVISION
EATON MANUFACTURING COMPANY
516 CHARLES AVENUE MASSILLON, OHIO
SALES OFFICES: NEW YORK CLEVELAND DETROIT CHICAGO ST. LOUIS SAN FRANCISCO MONTREAL

For more details circle NED-125 E7 on enclosed inquiry slip

Now YOU CAN TAP PRECISION HOLES IN BRITTLE MATERIALS OR THIN SHEETS



Recent design change of the HAMILTON SUPER SENSITIVE, SMALL-HOLE PRECISION TAPPING MACHINE

Also extends capacity to:—
.034" x 120 minimum
¼" x 24 maximum

YOU will want full information about this important development!

WE WILL FURNISH IT FREE

Ask for BULLETIN NO. 2464

ADDRESS
THE HAMILTON TOOL COMPANY
901 Hanover Street
HAMILTON, OHIO

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE
2464

For more details circle NED-126 E7 on enclosed inquiry slip

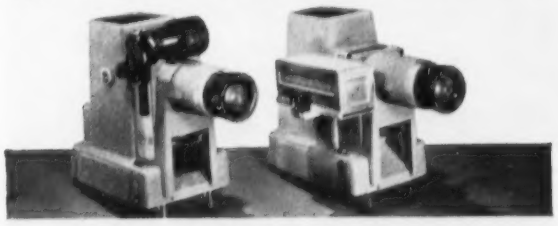
New Bearing Catalog
gives complete specifications for over 1700 stock bronze bearings

This catalog covers the largest range of sizes available in stock bronze bearings. From the many types and sizes available, there is a bearing for almost any application.

If you would like to enjoy the advantages of economy and quick delivery which stock bearings provide, you should investigate the Johnson line described in Catalog 570. For your free copy, write Johnson Bronze Company, 580 S. Mill Street, New Castle, Pa.

For more details circle NED-127 E7 on enclosed inquiry slip

KODASLIDE SIGNET PROJECTORS have precision movements, handy controls, extra brightness, to help you show your slides and filmstrips with full effectiveness.



Slides and filmstrips work their *hardest* with these easy-to-use, versatile projectors

Make your slides and filmstrips work to full effect—show them with a Kodaslide Signet Projector.

Frames advance smoothly, and fast as a flick—even with cut or damaged film—thanks to the new, enclosed, nylon-geared Geneva mechanism. Sprocket teeth are visible for fast threading. Rapid rewind device.

Convenient controls let you concentrate comfortably on your *presentation*—not your projector. Special lenses and reflectors help deliver brilliant, sparkling pictures. Impeller-type blowers, aluminum panels, thick heat-absorbing glass assure cool, quiet performance. And you can convert from filmstrips to slides—and back—in seconds!

Signets are available in either 300- or 500-watt models, with lightweight carrying cases, if you wish.

Get full details—write for free pamphlet

EASTMAN KODAK COMPANY, Rochester 4, N. Y.

Kodak

For more details circle NED-128 E7 on enclosed inquiry slip

Users tell the Speed-Patch story best with orders for more . . . year after year. Why not take advantage of the experience of others and make ready-mixed Speed Patch your standard floor repair. Sets immediately. Heavy loads truck over each patch without waiting.

Write for Details

ROBERTRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois

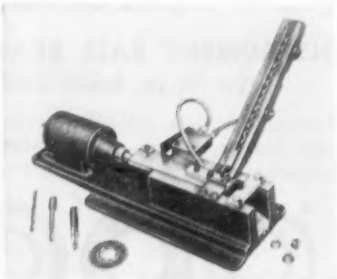
▲ For more details circle NED-129 E7 on enclosed inquiry slip ▲

OPTICAL RANGE FINDER
measures distances of 8 to 100 ft

Distances from 8 to 100 feet, even to inaccessible places and objects, are easily measured by this range finder. Operation is based on coincidence of two images, one natural and one gold colored. Knob is turned until the two images coincide, and the distance is read directly on dial. Supplied in leather case, instrument is priced at $32.50. Available from **Edmund Scientific Co.**, 180 E. Gloucester Pike, Barrington 25, N. J.

▲ For more details circle NED-131 E7 on enclosed inquiry slip ▲

WORK FEEDER
improved unit is air powered



Air cylinder incorporated in the redesigned Mead reciprocating work feeder features a larger diameter return spring for longer life and more uniform tension. Increased Oilite bearing surface provides accurate ram alignment and smooth travel. Slide and dovetail ways are uniform in dimensions to facilitate replacement. Mounting surfaces are machined for assembly into other units. Feeders deliver, hold and eject small work pieces automatically to a working machine. Made by **Mead Specialties Co.**, Dept. WF-40, 4114 N. Knox Ave., Chicago 41, Ill.

▲ For more details circle NED-132 E7 on enclosed inquiry slip ▲

MOLDING PRESS
for rubber and plastic parts

Precision molding of rubber and plastic products is possible with this 75-ton hydraulic press which applies heat and pressure under closely controlled conditions. The 14 x 14-in. electrically heated platens are thermostatically controlled in range of 150 to 550° F and are built into press. Hydraulic pump permits application of constant pressure for any length of time. Daylight opening and ram stroke are 6 in. Made by **Atlas Hydraulics Inc.**, 3576-N Ruth St., Philadelphia 34, Pa.

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New Truscon Speed-Erect Standard Steel Building

Here's the latest design from the steel-building pioneer. This fire-resistant Truscon building is low in cost and can be quickly erected. It is movable and re-usable. Highest quality, weather-resistant, galvanized finish needs no painting. Bolted assembly—no field-welding required. Up to 48 feet wide and 12 or 14 feet high in any desired length. Immediate delivery. Write for latest bulletin.

TRUSCON STEEL DIVISION
REPUBLIC STEEL
1096 Albert St., Youngstown 1, Ohio

TRUSCON MARK OF MERIT PRODUCTS
REPUBLIC STEEL
C-3931

▲ For more details circle NED-135 E7 on enclosed inquiry slip ▲

Daven's new winding technique cuts giants down to size

for MAXIMUM RESISTANCE IN MINIMUM SPACE

These fully encapsulated, miniature, precision wire wound resistors utilize a new winding technique that permits the use of extremely fine resistance wire to obtain two or three times the resistance value previously supplied on a miniature bobbin.

Type	Dia.	Length	Max. Res.	Wattage Rating
1273	1/4	5/16	400K	.1
1283	1/4	5/16	400K	.1
1274	3/16	3/8	100K	.1
1284	1/4	27/64	.5 Meg	.25
1192	1/4	1	1.0 Meg	.75

THE DAVEN CO.
542 West Mt. Pleasant Ave.
Route 10, Livingston, N. J.

Write for Complete Data and Catalog

WORLD'S LARGEST MANUFACTURER OF ATTENUATORS

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We'll make it from ALUMINUM!

ELECTRONIC CABINETS
Also phone booths. Shipping drums, tote boxes, pallets, tanks. Process equipment. Welded pipe. Farm gates. Floats.

Let Alcoa's Jobbing Division bid on your complex or long-run jobs in fabricated aluminum. We have the men, the machines, the technical know-how PLUS the help of Alcoa's giant research facilities. Call your Alcoa sales office for more information on Alcoa's Jobbing Division.

ALCOA JOBBING DIVISION FACILITIES

FREE BOOK!
Describes equipment of Alcoa Jobbing Division. Shows kinds of jobs handled. 16 pages, easy reading, many pictures. Circle the Inquiry Card, or write: Aluminum Company of America, 1951-E Alcoa Building, Pittsburgh 19, Pa.

ALCOA ALUMINUM

▲ For more details circle NED-130 E7 on enclosed inquiry slip ▲

Protect personnel during welding operations

IPCO WELDING CURTAINS

Confines the welding operation to a given area; protects other workers and passers-by from harmful rays, flying chips and scale. Made of flameproofed canvas (Underwriter's Approved Treatment) or asbestos, complete with eyelets for suspending on rod or pipe support.

Write for Bulletin No. 43

IPCO Safety Equipment for all Industries
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

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SEND for FREE SAMPLE to prove our NEW AIRCOOL SWEAT BANDS are COOLER! Longer Lasting!

PULMOSAN AIRCOOL —the only sweat band made of perforated pure foam rubber, reinforced with a cotton backing. The perforations aid evaporation of water and circulation of air . . . AIRCOOL SWEAT BANDS are really *cool!* Elastic headbands are easily adjustable with 4-slot slide. Foam rubber body is durable, tear resistant, soft, resilient. *Packaged 25 per box.* 16¢ each. 1,000 or more, 14¢.

PULMOSAN STOPS Accidents
Pulmosan SAFETY EQUIPMENT CORPORATION
646 Pacific Street, Brooklyn 17, N. Y., STerling 9-0200
1007 Washington Ave., St. Louis, Mo. (Chestnut 1-9393)

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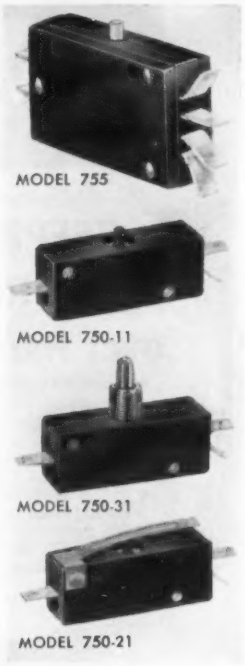
NEW SORENG "SNAPAC" Switch Line Offers:

RUGGEDNESS, HIGH CAPACITY, DEPENDABILITY, ECONOMY



Electro-mechanical Features

- Instantaneous, positive make and break action
- High contact pressure
- Non-sensitive to vibration and shock
- Stable under momentary high overload
- Available S P S T normally open or closed, or S P D T (Model 755 is DPDT or DPST normally open and normally closed)

Rating:

15 amp-125 v, ac
10 amp-250 v, ac
½ h.p.-125/250 v, ac

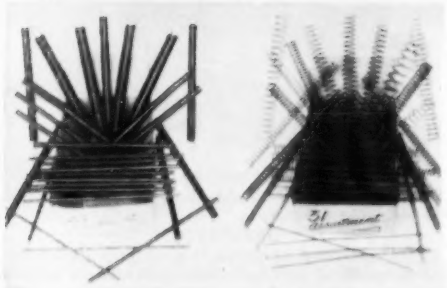
Listed by Underwriter's Laboratories

Write for SNAPAC Bulletin SL-3

CONTROLS COMPANY OF AMERICA
9577 Soreng Avenue • Schiller Park, Illinois
SORENG DIVISION

For more details circle NED-138 E7 on enclosed inquiry slip

Stock SPRING assortments



Our #28 (extension) and #31 (compression) Spring Assortment folders are now available and yours for the asking. Ideal for tool rooms and maintenance work.

To overcome the faults of ordinary assortments, which seem to contain "every spring except the one needed", design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.

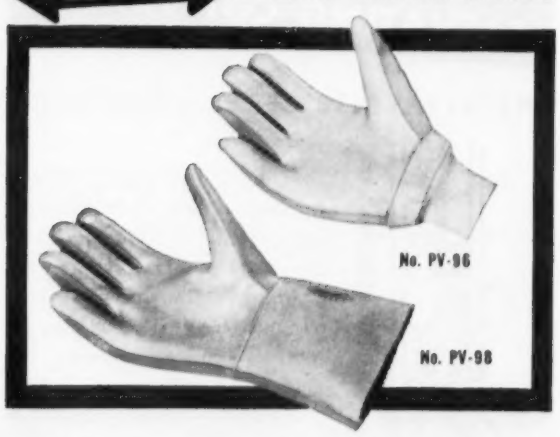
We also manufacture to special order.

Send samples or prints for quotation.

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

For more details circle NED-139 E7 on enclosed inquiry slip

Tough as they come! HOOD Plastic-Coated Gloves



Super-resistant to acids, alkalies, oils and abrasion. Flexible and odorless. Curved fingers and winged thumb provide natural, comfortable fit. Canton flannel lining.

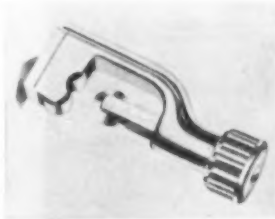
Also available in palm coated style No. PV-94.
Write for 1957 catalog.

HOOD RUBBER CO.,
a division of the B. F. Goodrich Company
WATERTOWN, MASS.

RUBBER • NEOPRENE • PLASTIC COATED INDUSTRIAL GLOVES

For more details circle NED-140 E7 on enclosed inquiry slip

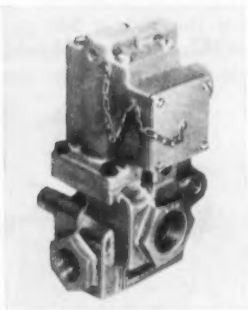
TUBING & CONDUIT CUTTER capacity is ⅛ to 1⅛ in. OD



Nonferrous and plastic tubing and thin wall conduit from ⅛ to 1⅛ in. OD can be cut with the Pipemaster 1-T cutter. All cuts are straight and smooth and are made without distorting the tubing. Screw mechanism is enclosed in the casting and the pivoted reamer swings out of the way when not in use. Overall length is 4½ in. Made by **Erie Tool Works**, 733 W. Twelfth St., Erie, Pa.

For more details circle NED-141 E7 on enclosed inquiry slip

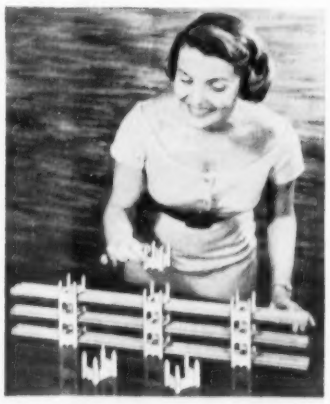
THREE-WAY AIR VALVE solenoid controlled, pilot operated



Recessed pin which can be locked in or out for manual operation without removing cover is feature of three - way solenoid controlled air valve. The pilot-operated poppet type unit meets JIC standards for watertight and dusttight solenoid enclosures. Aluminum construction and in-line cylinder and inlet ports allow mounting directly to cylinder. It can be used in pairs to control double-acting cylinders. Sizes are ¼, ⅜, ½, ¾, 1 and 1¼ in., normally open or normally closed. Made by **Automatic Valve Co.**, 37411 Grand River Ave., Farmington, Mich.

For more details circle NED-142 E7 on enclosed inquiry slip

MODEL STORAGE RACKS offered free for scale planning



Set of 8-to-1 scale model miniature plastic storage racks is offered free to aid in planning or revising facilities for storage of bar, rod and pipe stock. Models can be set up on desk or table to determine the most efficient storage method before actually rearranging the stockroom. Models nest into each other in the same way as full-size steel Mini-Module storage racks. For free set, write to **Jarke Mfg. Co.**, 5403 Balmoral Ave., Chicago 40, Ill.

For more details circle NED-143 E7 on enclosed inquiry slip

No "Plumbing" Needed for the HW-17 HELIARC Torch

handles up to 150 Amperes

Here is the only air-cooled torch available for inert gas shielded arc welding with currents up to 150 amperes. With a continuous-duty capacity of 130 amperes (150 amperes for a reduced duty cycle), the HW-17 handles many jobs that formerly required a water-cooled torch. Elimination of external "plumbing", drain lines, mobile water pumps, and the like, cuts original installation costs almost in half and drastically reduces everyday maintenance costs.

The HW-17 is a shock- and heat-resistant torch fully capable of absorbing the hard knocks of all service within its range. A twist of the torch cap provides easy adjustment of 7- or 3-inch electrodes. *See your local LINDE representative today, or write for further information.*

LINDE AIR PRODUCTS COMPANY
A Division of
Union Carbide and Carbon Corporation
30 East 42nd Street New York 17, N. Y.
Offices in Other Principal Cities

The terms "Linde" and "Heliarc" are registered trade-marks of Union Carbide and Carbon Corporation.

For more details circle NED-144 E7 on enclosed inquiry slip

PORTELVATOR®

The Handy HAMILTON Portable, Elevating Table

5607

NEW DEVELOPMENTS PROVIDE EASY MOVEMENT

MORE SERVICE for LESS MONEY than ANY Other Unit of Equipment

Four-Wheel and Six-Wheel Models

of SHEETS PLATES BARS TUBES PIPES TOOLS DIES FIXTURES ALL COMPACT HEAVY LOADS

4 table surfaces
3 point support

NEW, FREE LITERATURE TELLS ALL! Ask for Bulletin P-5607. Address The Hamilton Tool Company, 901 Hanover Street, Hamilton, Ohio.

UNOBSTRUCTED PERIMETER • WORK FROM ANY SIDE

IT'S A Hamilton Tool
USE IT WITH CONFIDENCE

For more details circle NED-145 E7 on enclosed inquiry slip

It's True!

2-Week Retread Service for Molded-on Solid Tires

HUB TYPE or spoke wheels – when the tread rubber of your industrial tire wears down, you don't have to replace the entire molded-on wheel. Instead, the used wheel can be shipped to Goodyear for application of a new tread.

Two weeks in our factory is all it takes.

Here's how to do it: **1.** Ready the wheels for shipment–remove bearings, races, washers and grease fittings–then turn them over to your Goodyear dealer for shipment to Goodyear Akron.

2. When we receive your wheels, we burn off the old rubber, shot blast the wheels and inspect them thoroughly. Next, we carefully weigh out the new rubber for each wheel and mold it on to factory specifications.

3. We ship your reconditioned wheels back to the Goodyear dealer, for delivery to you.

Call your Goodyear dealer about this unbeatably efficient retread service. Or write: Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Look for this sign; there's a Goodyear dealer near you.

Use the Right Tire for the Job—Buy and Specify

GOODYEAR
INDUSTRIAL TIRES

For more details circle NED-146 E7 on enclosed inquiry slip

SAVINGS $12.35 PER THOUSAND over machine method cost

SCREW MACHINING $15.00 per thousand | COLD HEADED $2.65 per thousand

Cold-Heading is the most versatile, most economical method for producing your fasteners and small parts. This case history is typical of thousands of money saving jobs we've done for our customers. May we quote on your requirements? Write today for the Hassall Catalog.

John Hassall, Inc., P.O. Box 2178 Westbury, Long Island, N.Y.

SINCE 1850 **Hassall**

NAILS, RIVETS, SCREWS AND OTHER COLD-HEADED FASTENERS AND SPECIALTIES

For more details circle NED-147 E7 on enclosed inquiry slip

- *Cut Materials and Labor Costs...*
- *Solve Leakage and Corrosion Problems!*

Purifying a highly acidic water supply demands positive protection from pipeline contamination and corrosion at Pennsylvania Electric Company's Shawville Station. Careful study of all available piping materials led Gilbert Associates, Inc., consulting engineers, to specify low cost, light wall stainless steel pipe and Speedline Fittings for *both* boiler feed lines *and* water make-up lines!

The result? Elimination of corrosion and contamination . . . plus real savings in materials costs, installation time and pipeline maintenance. Exclusive features of Speedline tees, aligning connectors, insert flanges, reducers and elbows made *every* joint 100% leak-proof!

Piping design and assembly advantages possible *only* with Speedline Fittings are described in this illustrated brochure. Write for your copy of the Speedline Catalog today . . . or contact the Speedline representative nearest you.

Speedline®

SPEEDLINE IS A REG. T. M. OF HORACE T. POTTS COMPANY 700R

STAINLESS STEEL FITTINGS

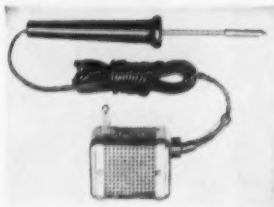
THE NEWEST THING IN PIPELINE ECONOMY

SPEEDLINE DISTRIBUTORS ARE LOCATED IN PRINCIPAL CITIES FROM COAST TO COAST

Manufactured by **HORACE T. POTTS COMPANY**
532 E. Erie Avenue • Philadelphia 34, Penna.

For more details circle NED-148 E7 on enclosed inquiry slip

SOLDERING IRON
operates on 12-v transformer

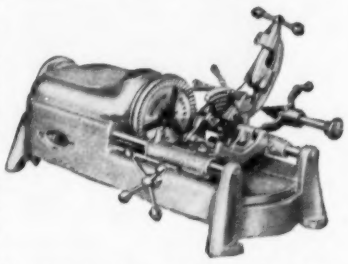


Precision soldering on delicate or miniature electronic components is possible with the model T-12 pencil type soldering iron which operates from its own 12-v output transformer. Transformer plugs into 110-v wall or bench receptacle. Iron with its 7-ft cord weighs 3½ oz and has interchangeable slip-in ¼, ⅛ and 1/16-in. diameter 17 and 20-w tip-elements. Made by **American Electrical Heater Co.**, 6111 Cass Ave., Detroit 2, Mich.

For more details circle NED-149 E7 on enclosed inquiry slip

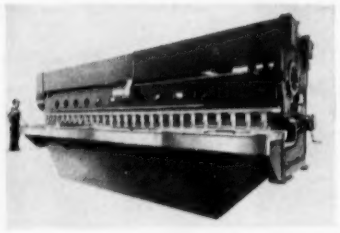
PIPE & BOLT THREADER
has quick-opening die head

Two sets of dies supplied with the Ridgid 535 pipe and bolt threading machine enable its quick-opening universal die head to thread ½ to 2-in. pipe or conduit. Also included are a roll type cut-off with self-centering, full - floating cutter wheel and five-flute cone reamer with ⅛ to 2-in. capacity. Operating independently, all tools swing up when not in use. Machine features concealed oil system, lathe type adjusting handle to move carriage and a length gage. Price is $460. Made by **Ridge Tool Co.**, 125 Ridge Rd. Elyria, O.



For more details circle NED-150 E7 on enclosed inquiry slip

STEEL SHEAR
cuts 26 ft of ⅜-in. mild steel



Motor - operated back gage with 48-in. range, welded one - piece steel frame, air-operated clutch and brake, Micro-set knife adjustment and electric foot switch control are incorporated in this Steelweld pivoted-blade shear. It cuts 26 ft of ⅜-in. mild steel at 30 strokes per minute. Blade and hold-down counterbalances are air-operated and mounted inside the crown. Shear is arranged for slitting and notching and has two rows of ball transfers in the bed top, which is 38 in. wide. Made by **Cleveland Crane & Engineering Co.**, Steelweld Machinery Div., 1143 E. 283rd St., Wickliffe, O.

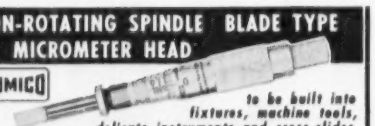
For more details circle NED-151 E7 on enclosed inquiry slip

SCHERR PRECISION MEASURING TOOLS

NEW MICRO PROJECTOR $375.00 BASE PRICE

NON-ROTATING SPINDLE BLADE TYPE MICROMETER HEAD

TUMICO



to be built into fixtures, machine tools, delicate instruments and cross-slides.

NON-ROTATING SPINDLE BLADE TYPE MICROMETERS

For Measuring of narrow depth grooves, slots, keyways, splines, square threads, recesses and similar hard-to-measure surfaces.

BLADE THICKNESS .030" GAGING DEPTHS TO 1/4"

Available Carbide-tipped

Spindle and Anvil Blades are hardened, ground and lapped to contact fit

Graduated in .001"
Ranges: 0-1", 1-2", 1½-2½", 2½-3½" 3½-4½" and others

Mandrel Type MICROMETER Sets

with TUBULAR Frame for • EXTRA STRENGTH • LIGHT WEIGHT

Each Set has a range of 6" and is equipped with setting Standards & mandrels in finished wooden case

Light Weight Frames For Extra Large Sizes

Available from 6" to 96"

Sold thru Tool Supply Houses WRITE FOR ILLUSTRATED FOLDER

GEO. SCHERR CO., INC.

200 ND LAFAYETTE ST. • NEW YORK 12, N. Y.

For more details circle NED-152 E7 on enclosed inquiry slip

NEW

AO 75FPH Hood with R2000 Respirator Fits over Hard Hat

- For dust and paint spray operations
- Offers complete head, eye, neck, shoulders and respiratory protection
- Hood of flame-resistant cotton duck fits over full brim hard hat (hard hats not supplied).

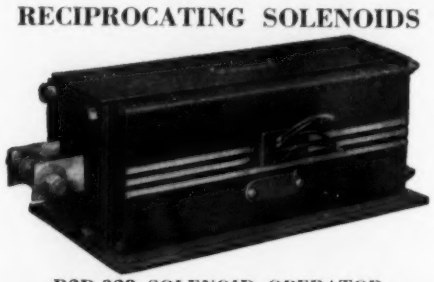
Your nearest AO Safety Products Representative can supply you.

American Optical COMPANY SAFETY PRODUCTS DIVISION

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

For more details circle NED-153 E7 on enclosed inquiry slip

RECIPROCATING SOLENOIDS



R2D-328 SOLENOID OPERATOR

Reciprocating solenoids have the trade name of "RD Solenoid Operators."

DEFINITION

An RD solenoid operator is a reciprocating solenoid unit made up of two solenoids mounted in tandem to actuate a common plunger oscillating between them.

CLASSIFICATION AND DENOMINATION

Class I. Plain RD operators for operation in open air.
Class II. Oil immersed, RDZ operators.
Class III. Explosion proof RDX operators.
Type 1. Two point operators R2D, R2DZ, R2DX.
Type 2. Three point operators R3D, R3DZ, R3DX.
Form A, side mounted, Form B, end mounted.

Operators available: RD-100, RD-300, RDX-300, RD-400, RD-700 and RD-800.

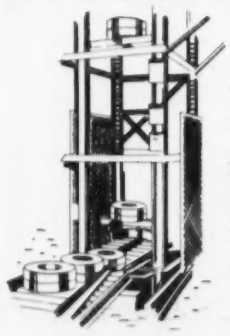
Ask for bulletins on operators, solenoids, solenoid brakes, Recipromotors and Semotors. See our catalogs in Sweet's Catalog Service.

TROMBETTA SOLENOID CORP.
329 N. MILWAUKEE ST.•MILWAUKEE 2, WIS.

For more details circle NED-154 E7 on enclosed inquiry slip

Mathews ELEVATING CONVEYERS

ENGINEERED TO SERVE PRODUCTION



One of the many widely applied types of conveying equipment designed and built by Mathews Conveyer Company. The complete line of Mathews-designed, Mathews-built Conveyers includes the following:

CHAIN CONVEYERS • LIVE ROLLER CONVEYERS • WHEEL CONVEYERS
BELT CONVEYERS • TROLLEY CONVEYERS • ROLLER SPIRAL CONVEYERS
PORTABLE CONVEYERS • SPECIAL CONVEYING MACHINERY

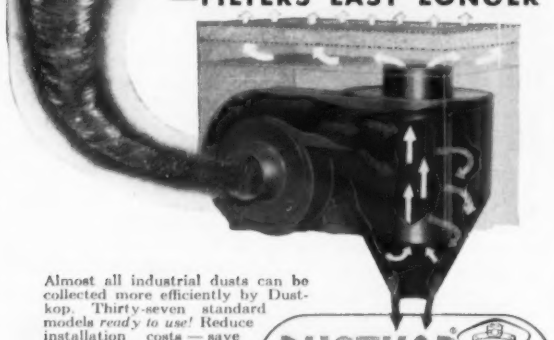
MATHEWS CONVEYER COMPANY . . . ELLWOOD CITY, PENNA.
MATHEWS CONVEYER COMPANY WEST COAST . SAN CARLOS, CALIF.
MATHEWS CONVEYER COMPANY, LTD. . PORT HOPE, ONTARIO

MATHEWS *Fifty Years of Leadership in Mechanized Handling*

For more details circle NED-155 E7 on enclosed inquiry slip

CYCLONE SEPARATION

FOR MORE EFFICIENT DUST COLLECTION —FILTERS LAST LONGER



Almost all industrial dusts can be collected more efficiently by Dustkop. Thirty-seven standard models *ready to use!* Reduce installation costs — save space. Write for descriptive literature.

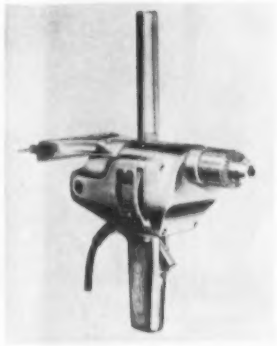
DUSTKOP STOPS DUST

ALSO A COMPLETE LINE OF MIST COLLECTORS

AGET MANUFACTURING COMPANY
1396 EAST CHURCH ST., ADRIAN, MICH.

For more details circle NED-156 E7 on enclosed inquiry slip

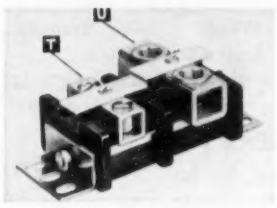
SHORT ELECTRIC DRILL
delivers ½-hp and 8 lb-ft torque



Close-quarter work can be performed by the model 612 "shorty" drill, a ½-in. heavy duty portable electric tool that weighs 9¼ lb. Length is 12¼ in. It delivers ½-hp and 8 lb-ft torque at the chuck and has a spindle speed of 600 rpm. Other features are sealed ball bearings, helical cut heat treated gears and pinions, fan cooling, trigger switch with locking button and built-in chuck key holder. Made by **Milwaukee Electric Tool Corp.**, 5328 W. State St., Milwaukee 8, Wis.

For more details circle NED-158 E7 on enclosed inquiry slip

TERMINAL BLOCKS
in 125 and 250 amp, 750-v ratings



Built - up terminal block design complies with large wire and heavy current requirements in type T and U terminal block units. It is necessary only to strip the wires, insert them and tighten the screws. Units are rated 125 and 250 amp, 750-v, respectively and accommodate No. 6 to 1/0 wire and No. 4 to 250 MCM wire. They are assembled in blocks of one through four terminals. Made by **Curtis Development & Mfg. Co.**, 3250 N. 33rd St., Milwaukee 16, Wis.

For more details circle NED-159 E7 on enclosed inquiry slip

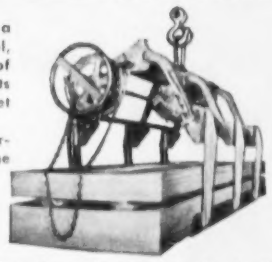
MINIATURE CLUTCH
electromagnetically operated

Low torque drive of instruments and miniaturized control mechanisms are applications for the model SF-100 miniature electromagnetic clutch. Instantaneous, positive engagement and release of loads up to 2 lb-in. (static torque rating) are provided by the ⅞-in. long, 1⅛-in. diameter unit. The flange mounted field is connected through pigtail leads to a 28 or 90-v dc source. Torque is transmitted through the rotor to the armature which may be keyed to the driving or driven member. Maximum power required is 6 w. Made by **Warner Electric Brake & Clutch Co.**, Industrial Div., Dept. N, Beloit, Wis.

For more details circle NED-160 E7 on enclosed inquiry slip

Wide *or* Narrow...

1 C-F LIFTER HANDLES THEM ALL



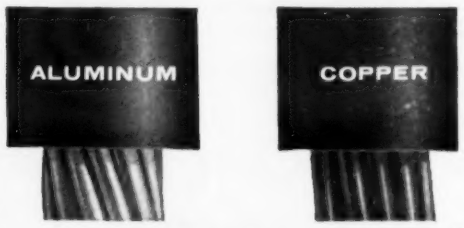
Whether your production requires a few or many widths of sheet steel, 1 C-F Lifter, with its wide range of jaw and carrying angle adjustments will probably meet all your sheet handling requirements.

Adjustments are made by the operator in a few seconds, permitting the lifter to shift from wide to narrow sizes almost instantly. Because it can pick up, carry and unload more loads per hour, using less man and crane time than any other methods, a C-F Lifter will soon pay for itself.

Bulletin SL-30 gives you the complete story of C-F Lifter advantages to you. Ask for it today. There is no obligation.

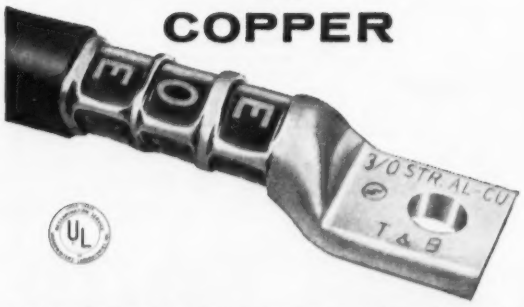
CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

For more details circle NED-162 E7 on enclosed inquiry slip



NOW!

THE SAME CONNECTOR JOINS EITHER ALUMINUM OR COPPER

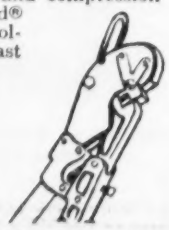


T & B METHOD COMPRESSION CONNECTORS MAKE INSTALLATION SURE... EASY... PERMANENT

NEW VERSATILITY: UL listed for use on both aluminum and copper conductors. Accommodate the full range of wire sizes from #8 AWG to 1000 MCM. Available in one and two hole lugs and two way connectors.

NEW PERMANENCE: Hot tin coating and tight compression assure permanent, high-conductive joints every time.

EASIER INSTALLATION: Connectors and compression dies up to 3/0 are Color-Keyed® for instant identification and foolproof matching. Compression is fast and simple.



WRITE FOR YOUR CATALOG SHEET AND SAMPLE TODAY.

TBM5 HAND COMPRESSION TOOL installs #8 to 3/0 sizes. Color-Keyed® dies changed in seconds. Larger sizes install with hydraulic tools.

Sold only under The T&B PLAN of 100% Wholesaler Distribution

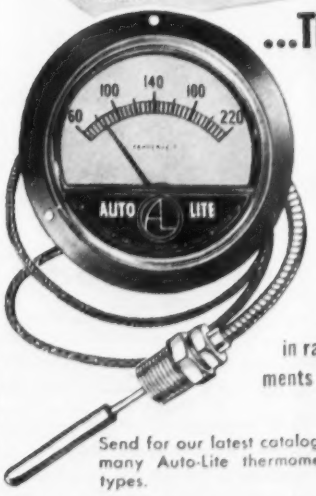
THE THOMAS & BETTS CO.
INCORPORATED
24 Butler Street • Elizabeth 1, New Jersey
THOMAS & BETTS LTD.
Montreal, P.Q., Canada

AUTHORIZED DISTRIBUTION T&B ENGINEERED

MANUFACTURERS OF FINE ELECTRICAL FITTINGS SINCE 1898

For more details circle NED-157 E7 on enclosed inquiry slip

AUTO-LITE



...TEMPERATURE INDICATION

Original equipment manufacturers may choose from a complete line of Auto-Lite dial thermometer types, in ranges to meet the requirements of specific applications.

Send for our latest catalog describing the many Auto-Lite thermometer styles and types.

THE ELECTRIC AUTO-LITE COMPANY
Instrument and Gauge Division
Toledo 1, Ohio
New York • Chicago • Sarnia, Ontario

TEMPERATURE INDICATORS & RECORDERS

For more details circle NED-161 E7 on enclosed inquiry slip

If you spend your weekends repairing or overhauling stuffing boxes, packing joints, or ordinary rotating joints, get acquainted with the Rotary Union.

The Rotary Union provides a perfect seal for months and years without mechanical maintenance of any kind. It costs a little more than the cheapest — pays for its cost many times in parts, maintenance labor, and savings in steam.

For full information contact our nearest office or write for Bulletin 7000.

ROTARY UNION

Self-Aligning Self-Adjusting Ball Bearing Precision Mechanical Seal

Trade Name — Patented "WHERE *Good Connections* COUNT"®

PERFECTING SERVICE CO.
332 Atando Ave. Charlotte, N. C.
Baltimore—Camden, N. J.—Chicago—Cleveland—Los Angeles—New York—Providence—Montreal—Toronto

For more details circle NED-163 E7 on enclosed inquiry slip

Pointed blade seals tops of cartons!

New Bostitch P6-8P Stapling Plier top-seals almost any cardboard or corrugated container including those half-filled or loosely packed.

No pressure or special bolstering needed. Just insert sharp blade into top edge of carton and squeeze. A rugged staple clinches inside, leaving only a thin slit where the blade went in.

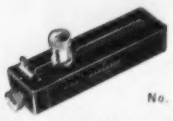
For free demonstration call "Bostitch" in your local phone directory or write Bostitch, 635 Briggs Drive, East Greenwich, R. I.

Fasten it better and faster with **BOSTITCH**
STAPLERS AND STAPLES

For more details circle NED-164 E7 on enclosed inquiry slip

HARGRAVE Tested Tools THE CINCINNATI TOOL COMPANY

Cut Your Own Gaskets
with HARGRAVE
PRECISION GASKET CUTTERS


No. 414

Hargrave No. 414 Handy Gasket Cutter, Hand Operated—with inch & metric scales for direct reading. Cuts ¼" to 6" round gaskets, odd shapes and straight pieces any size, from every pliable sheet material.

No. 407 WASHER CUTTER

Hargrave No. 407 Washer Cutter-Brace. Capacity ⅞" thru 6". Cuts washers from leather, paper, rubber, sheet lead or thin wood, adaptable to any ordinary brace.

No. 415 EXTENSION TYPE

Hand Operated. Cuts precision round gaskets any size from every pliable sheet material. Extension Arms (No. E-12) increase cutting capacity another 12 inches each; as many as required may be used at one time.

No. 1406 METAL CUTTER

Hargrave No. 1406 Metal Cutter Brace. Capacity 1¼" thru 6". Cuts circular holes in sheet metal, wood fibre, etc. Adaptable to any ordinary brace. Furnished with round or taper shanks.

WRITE FOR FREE CATALOG

Showing a Clamp for every purpose, opening from ¾" to 12' and depths from 11/16" to 16", also Chisels, Punches, Masonry Drills for hand and power hammers, Carbide Tipped Rotary Drills, Gasket Cutter, File Cleaners, etc.

THE CINCINNATI TOOL CO.
1995 Waverly Avenue Cincinnati 12, Ohio

For more details circle NED-166 E7 on enclosed inquiry slip

Why Faucets Leak

—9 out of 10 washers are fastened with TOO LONG or SHORT —screws. The screws QUICKLY LOOSEN, thus loose washers —are destroyed thru grind and squeeze of opening and —closing faucets.

34 years of research uncovers new solution

—Now, NEW (Patented) 'Sexauer' SELF-LOCK Monel screws, —with an imbedded expanding NYLON PLUG, lock at the —required depth AUTOMATICALLY—hold washers FIRMLY!

—Made of rustproof, non-corroding MONEL, heads don't —twist off or screw slots distort. They are easy to remove —when necessary, can be used over and over.

—Used with NEW 'Sexauer' EASY-TITE faucet washers, this —combination outlasts past faucet repairs "6 to 1"! EASY-TITES are made of super-tough, pliable du Pont compound —(neither rubber nor fiber) and reinforced, like a tire, with —a vulcanized layer of Fiberglas, they resist distortion and —splitting from shut-off grind and squeeze.

The hidden costs of faucet leaks!

Faucet leaks are costly! As authenticated by Hackensack, N. J. Water Co. and American Gas Association, STOPPING just ONE PIN-HOLE SIZE (1/32") LEAK can reduce water waste 8,000 gal. quarterly. If a HOT WATER FAUCET LEAK, water and fuel savings JUMP to over $7.58 QUARTERLY—plus additional savings on MATERIALS—LABOR—and *costly* FIXTURE REPLACEMENTS!

NEW SELF-LOCK screws and EASY-TITE faucet washers are just TWO of the "SEXAUER" line of over 3000 TRIPLE-WEAR plumbing repair parts and Pat'd. precision tools.

A "SEXAUER" Technician in your vicinity will make our NEW 126 page Catalog "H" available. He will gladly consult with you regarding a SURVEY of your plumbing fixtures to determine correct repair parts required and establish reasonable stock levels that avoid both overstocking and shortages—thus providing for efficient stock arrangement and control—all without obligation. WRITE TODAY!

J. A. Sexauer Mfg. Co., Inc. Dept. AU-57
2503-05 Third Ave., New York 51, N. Y.

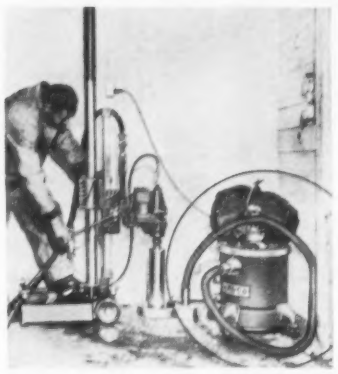
Gentlemen: *Please send me a copy of your NEW, 126 page catalog "H."*

My name ..... Title .....
Company or Institution .....
City ..... Zone ..... State .....

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle NED-167 E7 on enclosed inquiry slip

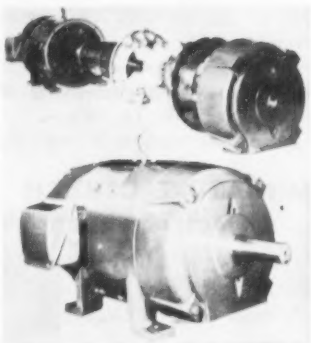
PORTABLE VACUUM UNIT picks up water, drilling sludge



Heavy-duty, portable Truco T-440 vacuum water pick-up is used to pick up water and drilling sludge during diamond drilling operation. Unit removes water and wet and dry cuttings when cutting into duct type flooring or when working in finished floors where water could damage floors, woodwork and furnishings. Machine consists of high velocity vacuum unit mounted on 12-gallon steel drum which rides on four casters. A cloth bag beyond the tank catches any dry material that passes the tank. Where extremely dry conditions are required, an aluminum water collector ring is used which retains the water and permits high velocity pick-up. Made by **Wheel Trueing Tool Co.**, 3200-220 W. Davison Ave., Detroit 38, Mich.

For more details circle NED-168 E7 on enclosed inquiry slip

DC MOTORS & GENERATORS in 1 to 150-hp and ¾ to 100-kw ratings, respectively



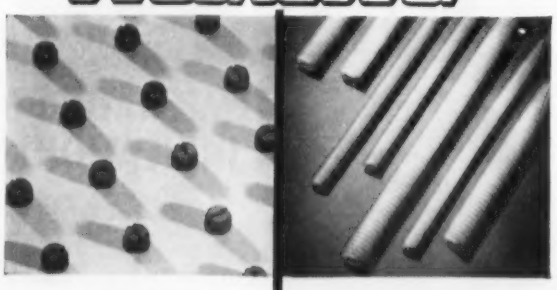
Life-Line H direct-current industrial motors and generators are designed to be equally effective as basic prime movers or as elements of complex automatic production systems. They have dripproof enclosures and bear NEMA Class B ratings. Motors from 1 to 150 hp and generators from ¾ to 100 kw are offered. Silicone insulating treatment is achieved with multiple dips and bakes at 200° C to seal against dirt and moisture and assure thermal stability.

A fan at the shaft end is teamed with an air shield and diffuser to impel air flow through machine and out commutator end. Commutator dust is thus expelled rather than deposited upon windings. Dripproof housing enables units to serve applications which usually require splashproof equipment.

Armature inertia has been decreased by as much as 55 per cent in some ratings, and commutating ability increased by 35 per cent, resulting in fast dynamic response. Made by **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

For more details circle NED-169 E7 on enclosed inquiry slip

Weckesser



Nylon Cap Nuts | Nylon Threaded Rod

Excellent dielectric properties—non-corrosive

Tough, flexible Rod makes U-bolts, dielectric spacers, studs, etc. Use Cap Nuts with Rod or screws or as knobs. Write for literature and prices.

See us at the Coliseum, Booth 1214, DESIGN ENGINEERING SHOW

Weckesser COMPANY
5707-09 Northwest Highway • Chicago 30, Ill.

For more details circle NED-170 E7 on enclosed inquiry slip

why the swing is to TOLEDO PRODUCTION SEATING

Series 8150 Adjustable Posture Chair in use.

- Increases production
- Lifts morale
- Reduces errors caused by fatigue
- Meets "use requirements" at each station

The Toledo Metal Furniture Company offers you the only complete line of comfortable, safe, durable PRODUCTION SEATING. Choose from a wide range of features*, developed from Toledo's 60 years experience, to get exactly the right chairs for your operations.

*FEATURES . . . HEIGHTS (10 basic heights, range: 14" to 32"): Quick-adjustable—Adjustable—Fixed. FEET: 5 kinds to choose. SEATS: Swivel—Non-swivel—Steel — Wood — Cushioned. BACKREST: Straight — Springback — Adjustable.

Series 146 Fixed Height Stool

Free! Valuable PRODUCTION SEATING information. Write for Bulletin 905-A.

Series 5306 Quick Adjustable Posture Chair
Other Series Available

The Toledo Metal Furniture Co.
1020 SOUTH HASTINGS STREET • TOLEDO 7, OHIO

For more details circle NED-171 E7 on enclosed inquiry slip

CESCO RIGHT...before your Eyes!

Snap-fast Face Shield with deflector crown

Open top Snap-fast Face Shield

Helmet-type Face Shield

Full visibility Helmet-type Face Shield

NEW!
CESCO All-Purpose Face Shield
for general shop work

A new CESCO Face Shield offers a unique, soft flexible vinyl headband, with no exposed mechanical adjustments to snag the hair.

The CESCO **770 Face Shield** comes in three window lengths of 4", 6" and 8" (top to bottom). The windows mount inside an aluminum channel in a tight assembly, impervious to entrance of dirt or liquid.

Write for complete Catalog and name of nearest CESCO distributor
CHICAGO EYE SHIELD COMPANY
2322 Warren Boulevard
Chicago 12, Illinois

Spark Shield

CESCO FOR SAFETY

For more details circle NED-172 E7 on enclosed inquiry slip

Spher-Align

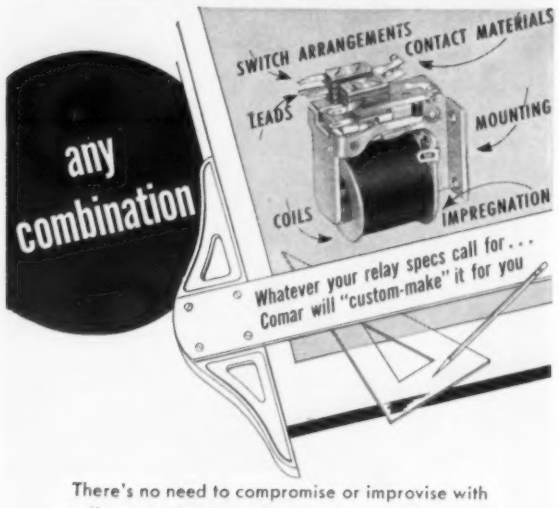
SPHERICAL ROLLER BEARING PILLOW BLOCK —WITH UNIQUE MICRO-MOUNT

A rugged bearing in attractive modern design, inherently self-aligning, easy to install and maintain. Fast, accurate mounting with exclusive Micro-Mount. Interchangeable with other similar units. Stocked for 2-7/16" to 8" shafts; expansion and non-expansion. Write for bulletin.

DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Indiana

DODGE
of Mishawaka, Ind.

For more details circle NED-173 E7 on enclosed inquiry slip



There's no need to compromise or improvise with ordinary stock relays. Comar can supply whatever combination of switches, contacts, coils, leads and mountings you need. Custom-made to match your product, installation is easier, performance is better, cost is surprisingly low. Inquiries invited.

Comar ELECTRIC COMPANY
3349 ADDISON ST., CHICAGO 18, ILLINOIS

RELAYS • SOLENOIDS • COILS • SWITCHES • HERMETIC SEALING

For more details circle NED-174 E7 on enclosed inquiry slip

Safer lubrication
One hand operation

NEW ARO-PAK

- LIGHT WEIGHT, PORTABLE, ONE HAND OPERATION . . . gets hard-to-reach fittings!
- HOLDS 5 LBS. GREASE . . . lubricates more fittings between refills.
- PERMANENT AIR PRIME . . . maximum pressure 7,500 p.s.i.
- FASTER LUBRICATION, VOLUME DELIVERY . . . Cleaner lubrication. Sealed against dirt.
- FAST REFILL . . . in less than minute with ARO-FIL gun filler.

Refilling with time-saving Aro-Fil Gun Filler.

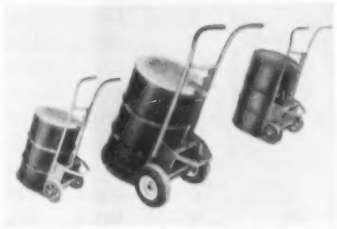
See your industrial distributor or write for Bulletin No. 5710.

THE ARO EQUIPMENT CORPORATION
Bryan and Cleveland, Ohio
Aro of California, 3141 S. Grand Avenue, Los Angeles 7 . . . Aro Equipment of Canada, Ltd., Toronto 15, Ontario.
Offices in All Principal Cities

ARO LUBE EQUIPMENT
Also . . . Air Tools . . . Air Hoists . . . Aircraft Products . . . Grease Fittings

For more details circle NED-175 E7 on enclosed inquiry slip

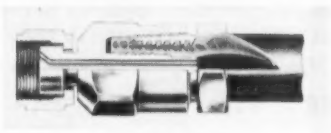
BARREL TRUCK
grips and loads automatically



Barrels weighing up to 1000 lb are easily handled with this barrel truck. It is moved against barrel, steel catch is dropped over rim, and pull on handles picks up barrel without rocking or excess strain. Large ball bearing wheels can be equipped with rubber tires. Made by **Palmer-Shile Co.,** 16015 Fullerton St., Detroit 27, Mich.

For more details circle NED-177 E7 on enclosed inquiry slip

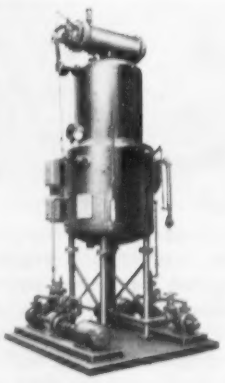
HYDRAULIC HOSE & COUPLINGS
medium-high and high pressure lines



Surgepruf medium-high and high pressure hydraulic hose and hose couplings feature a Non-Skive double - wedge grip that provides a full-strength hose connection. Reusable couplings bite through the rubber cover to grip solidly on either single or double wire braid hose without weakening the protective cover or impairing the waterproofing qualities. Assembly is made without using a mandrel to flare hose in socket. Hose has seamless inner tube of synthetic rubber reinforced by a single steel braid or two layers of steel wire braid separated by a synthetic rubber layer. Operating range is −40 to 275° F and burst range is 1400 to 18,000 psi. Made by **Stewart-Warner Corp.,** Alemite Div., Dept. NED, 1826 Diversey Pkwy., Chicago 14, Ill.

For more details circle NED-178 E7 on enclosed inquiry slip

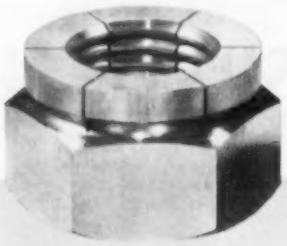
PACKAGED FEEDWATER HEATER
capacity ranges to 19,500 lb per hour



Boiler feed pumps and elevated heater are mounted on single base in this packaged feedwater heater. Only connections required are feedwater inlet, steam inlet and feedwater outlet. It automatically supplies required amount of preheated, noncorrosive feedwater. Four sizes are available with capacities of 4500 to 19,500 lb per hr. Operation at 30 psi gives feedwater temperature of 270° F. Made by **Stickle Steam Specialties Co.,** 2231 Valley Ave., Indianapolis 18, Ind.

For more details circle NED-179 E7 on enclosed inquiry slip

specify standard



FLEXLOC® SELF-LOCKING NUTS

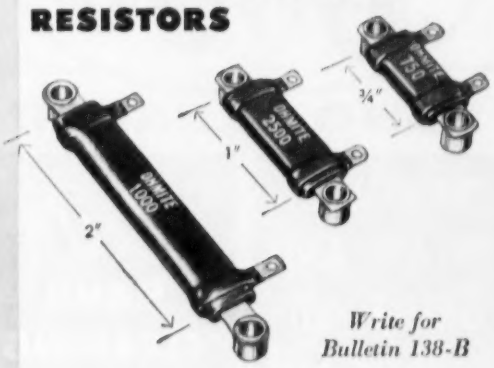
FLEXLOC DESIGN FEATURES
- one-piece, all-metal construction
- resilient locking section
- controlled locking torques
- lock and stop nut in one
- every thread carries its full share of load

DO YOU KNOW? FLEXLOCS do not have to be seated to lock. They lock anywhere on a bolt as soon as the locking threads are fully engaged. And FLEXLOCS are stocked by authorized industrial distributors in a full range of sizes from #0 to 2". Write for Bulletin 866. STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
FLEXLOC LOCKNUT DIVISION sps
JENKINTOWN PENNSYLVANIA

For more details circle NED-180 E7 on enclosed inquiry slip

new miniature
OHMITE®
THIN-TYPE POWER RESISTORS



Write for Bulletin 138-B

. . . pack higher wattage into less space

The new Ohmite *miniature* thin-type power resistors are available in three wattage sizes in a wide range of resistance values. They are available from stock in two wattage sizes. See (*) table below.

Designed especially for use in modern electronic circuitry where space is at a premium, these new *miniature* units have all the timeproven superiority of Ohmite vitreous-enameled resistors. They are only 1/8" thick and 3/8" wide, and range in length from 3/4" to 2".

The bracket allows mounting close to the surface and provides for convenient stacking. The *miniature* thin-type rises only 11/32" above the mounting surface; stack mounted, four units are less than 1-1/8" in height.

**AVAILABLE FROM STOCK*
2 miniature sizes: 10 and 20 watts
3 standard sizes: 30, 40, and 55 watts

MINIATURE THIN-TYPE RESISTORS

Watt Rating	Length of Core	Width of Core
* 10	3/4"	3/8"
15	1"	3/8"
* 20	2"	3/8"

WATTAGE RATINGS ARE BASED ON THE RESISTOR MOUNTED ON A HORIZONTAL STEEL PANEL

INTERMEDIATE THIN-TYPE RESISTORS
20 Watt, 13/16" x 1" and 30 watt, 13/16" x 1-1/2" are available.

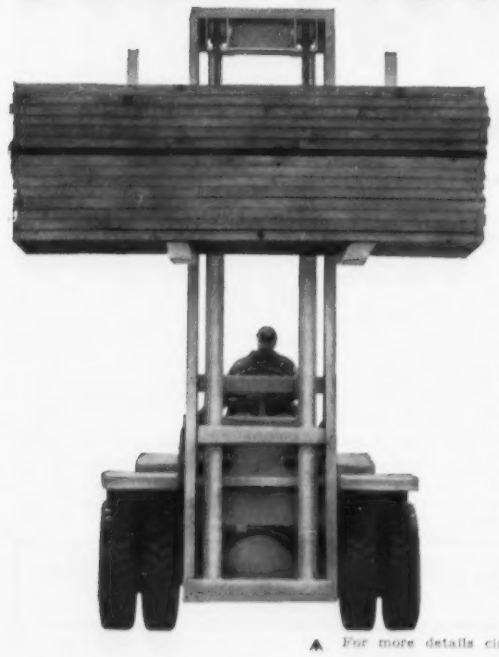
STANDARD THIN-TYPE RESISTORS
Stock units are 1" wide by 1/4" thick by 1-1/4", 2", and 3-1/2". In addition to the three stock units, 65-watt and 75-watt units are available—size 1" wide by 1/4" thick by 4-3/4" and 6" long.

OHMITE MANUFACTURING COMPANY
3620 Howard Street, Skokie, Illinois

BE RIGHT WITH OHMITE®
RHEOSTATS • RESISTORS • RELAYS • TAP SWITCHES • TANTALUM CAPACITORS

For more details circle NED-181 E7 on enclosed inquiry slip

300% MORE VISIBILITY



WITH NEW YALE HIGH-CAPACITY GAS TRUCKS

Only new Yale 15,000-20,000 lb. capacity Gas Trucks offer you "Wide-Angle Vision"—Yale's exclusive feature that gives the driver 300% more forward visibility! Here's how: nested upright channels are wide-spaced to reduce frontal obstruction; hoisting cylinders are placed right next to channels . . . lifting chains in front of the cylinders. The driver's seat is placed high and in the center of the truck. The result is not only full, unobstructed center visibility but also a greater arc of vision for fast, safe handling of big loads. Other outstanding features assure greater stability and fast cycle handling operations. Available with Fluid Coupling or standard transmission. Write for booklet No. 5230, The Yale & Towne Mfg. Co., Phila. 15, Pa., Dept. A-375-B.

YALE* INDUSTRIAL LIFT TRUCKS AND HOISTS
*REG. U.S. PAT. OFF.

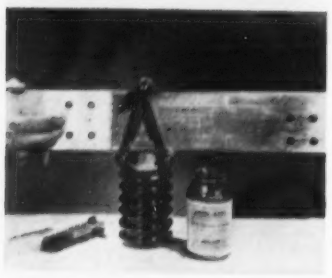
Gasoline, Electric & LP-Gas Industrial Lift Trucks • Worksavers Warehousers • Hand Trucks • Hand and Electric Hoists

For more details circle NED-176 E7 on enclosed inquiry slip

GENUINE — SIMPLE

SILVER PLATING

"ON THE JOB" WITH POWDER



Purposes of silver plating need not be explained to you of the electrical field.

The biggest problems of silver plating are its convenience, economy and thoroughness. "Cool-Amp" silver plating POWDER is the answer to these problems.

"Cool-Amp" deposits a genuine coat of silver that will not peel off and provides cool maximum conductivity for copper, brass or bronze contacts. It has been proven equal to any electroplating for bolted and stationary contacts and is far more adaptable . . . always ready to use.

"Cool-Amp" POWDER offers a quick and easy solution to heating due to oxidation, improves the continuity of electrical service and reduces maintenance.

"Cool-Amp" is completely harmless to the user and is simple to apply. It can be used by any number of people at the same time. ON THE JOB, in underground vaults and sub stations and in hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

Dampen a rag, dip in "Cool-Amp" and rub on surface. One pound will silver plate approximately 6,000 square inches.

$13.50 PER POUND SHIPPED PREPAID

WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS

GENUINE • SIMPLE SILVER PLATING

The COOL-AMP Co.

Dept. ED. 8603 S.W. 17th Avenue, Portland 19, Oregon

For more details circle NED-182 E7 on enclosed inquiry slip

the original DOUBLE-ACTION

Go-Jo

REG. U. S. PAT. OFFICE

HAND CLEANER

REMOVES GREASE AND GRIME—all Stubborn Soil IN 1/2 THE TIME

. . . easier
. . . faster
. . . safer

Cuts HAND CLEANING COSTS 50% AND MORE

saves time
saves money

The First and Only Fully Automatic

"ONE SHOT" DISPENSER

Amazing double-action cleaner—may be used with or without water—provides the best in fast action, removal of grease, grime, paint, ink, asphalt—all stubborn soil. No harsh abrasion — guards against Dermatitis — soothing, safe protection for the skin.

Proven highest time-saving efficiency with "one-shot" dispenser — gives just the right amount every time — convenient replaceable throw-away can. It's time you investigated Go-Jo.

GET DETAILS

Send for information to

GOJER, INC., Box 991, Akron, Ohio

Name_____ Title_____

Company_____

Address_____

City_____ State_____

America's Largest Manufacturer of Creme Type Hand Cleaners

For more details circle NED-183 E7 on enclosed inquiry slip

DEEP HOLE DRILLER
feeds oil to rotating tools

Constant pressure oil flow at the drill cutting point is delivered by the Acromatic oil inducer which continuously flushes out chips, enabling drills to cut faster. Unit adapts gun drills to all types of equipment for drilling and boring. It is also available for oil hole drills. Models 6000-6010 (illustrated) which attach directly to vertical or horizontal drilling equipment have tapered or straight shank or flange made to specification. Model 5000 high-speed, high-pressure unit for use with hollow shafts or spindles is attached at the shaft end for transfer of oil to actuate clutches, power cylinders or to deliver coolant for drilling. Units are leakproof and have a minimum oil temperature rise. Made by **Acromatic Tool Co.**, 21150 Coolidge Rd., Oak Park, Mich.

For more details circle NED-184 E7 on enclosed inquiry slip

RIPPING HAMMER
has plated tubular steel shaft

Built for heavy-duty hammering and prying, this Rocket ripping hammer with 20-oz head weight has a chrome plated boron alloy tubular shaft which will not bend or break. Handle is permanently locked to precision-shaped head. Safety cushion grip is a neoprene-fiber composition which absorbs impact shocks and resists damage by grease and oil. A 16-oz ripper is also made. Offered by **True Temper Corp.**, Dept. NED, 1623 Euclid Ave., Cleveland 15, O.

For more details circle NED-185 E7 on enclosed inquiry slip

PIPE & CONDUIT BENDER
power unit handles up to 4-in. size

Full 90-degree bends are quickly made in 4-in. diameter and smaller pipe and conduit with this No. 844 lightweight hydraulic bender. Pipe is easily inserted or removed. Rated 40 tons, bender is made of aluminum alloy for strength and portability. Power is supplied by power driven hydraulic pump which is available in two sizes. Any other pump delivering up to 10,000-psi can be connected to bender by means of a quick-coupling high-pressure hose. Attachments are available for thin-wall conduit, tubing and bus bar. Made by **Greenlee Tool Co.**, 2136 Twelfth St., Rockford, Ill.

For more details circle NED-186 E7 on enclosed inquiry slip

NEW ADJUSTABLE ELECTRIC VIBRATOR

NO WEIGHT CHANGING

A brand new *silent electric vibrator* that lets you vary the force of vibration without complicated weight changes, The Cleveland Vibrator Company now offers adjustable cams, permitting a change of vibrator force over a 3 to 1 range in a matter of seconds.

With this new bin vibrator you can adjust vibration to exactly fit your bins and type of material you are handling.

It's absolutely silent too.

Write for detailed information.

Air or Electric

Portable or Permanent

Silent or Standard

THE CLEVELAND VIBRATOR CO.

2744 Clinton Avenue — Cleveland 13, Ohio

For more details circle NED-187 E7 on enclosed inquiry slip

HOLDS

NON-MAGNETIC MATERIALS ON MAGNETIC CHUCK

Magna-Vise

(. . . a pair of spring-loaded clamps, actuated by magnetic pull of the chuck, hold material firmly against chuck face.)

*Patented

NEW LOW PRICES!

Model	Length	Width	Dia.	Price*
6	6 1/8"	1 3/16"	1/64"	$26.00
6A	6 1/8"	1 3/16"	1/16"	28.00
10	10"	1 3/16"	3/64"	35.00
14	14"	1 3/16"	3/64"	52.50

*F.O.B. Big Rapids, Michigan

ORDER TODAY, DEPT. ND-57

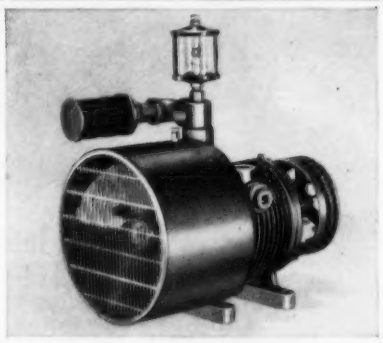
Magna-Lock magnetic chucks and devices.

MAGNA-LOCK, INC.

BIG RAPIDS, MICHIGAN, U. S. A

For more details circle NED-188 E7 on enclosed inquiry slip

BIG NEW fan-cooled rotary model 4565



GAST ROTARY AIR PUMPS

deliver 45 C. F. M. — double the capacity of previous models!

AS COMPRESSOR: 45 c.f.m., to 20 p.s.i.g. continuously with 5 h.p. at 1750 r.p.m.

VACUUM PUMP: 45 c.f.m., vac. to 25 in. hg. with 3 h.p. motor, 35 c.f.m. with 2 h.p.

Write for Bulletins 557-VP

Now ..... bigger-volume utility for original equipment or plant use! Built as either Compressor or Vacuum Pump for continuous, heavy-duty service. Air-cooled by 10" diameter pitch fan. Cowl-guard directs air—eliminates water-cooling headaches.

Long-lived, efficient 5-vane rotary design — positive, pulseless air delivery — needs no tank. Easy-to-mount v-belt drive. Three rows of ball bearings. Weight only 92 lbs.! Many applications.

Gast Manufacturing Corp., P.O. Box 117-R. Benton Harbor, Mich.

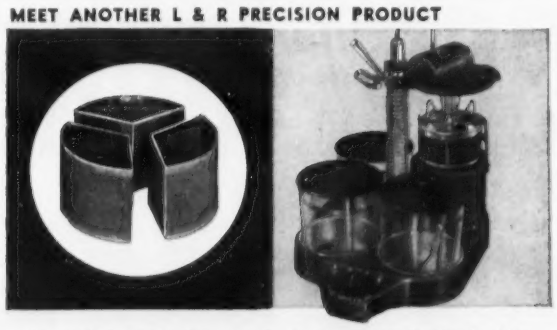
Original Equipment Manufacturers for Over 25 Years

GAST ROTARY • AIR MOTORS TO 4 H.P. • COMPRESSORS TO 30 P.S.I. • VACUUM PUMPS TO 28 IN.

See Our Catalog in Sweet's Product Design File

For more details circle NED-189 E7 on enclosed inquiry slip

MEET ANOTHER L & R PRECISION PRODUCT



No metal parts too small to clean *perfectly* in the

L & R INDUSTRIAL PRECISION CLEANING MACHINE

For more than a decade, industry has cleaned its smallest, most precise metal parts in this machine that employs the famous L & R Centrifugal Cleaning Action. In the Work Basket, measuring 3⅜" deep by 5½" I.D., small parts can be *cleaned, rinsed, polished* and *dried* in less than fifteen minutes—with three sets of parts separated by use of triple nesting baskets shown above.

Write for complete catalog on Precision Cleaning Machines, Cleaning and Rinsing Solutions, Flexible Shaft Machines, Buffing and Grinding Motors, Plastic Cement, Silver Contact Cleaner, Mallets and Hammers, Rust Remover.

L & R MANUFACTURING COMPANY

579 Elm Street, Arlington, New Jersey

For more details circle NED-190 E7 on enclosed inquiry slip

A NEW FASTENER...A NEW TYPE OF FASTENER

DIE-CAST ROUND-HEAD THUMB NUTS & SCREWS with GRC's exclusive WIDE GRIP feature

3 standard diameters: 1/2", 5/8", 3/4"; standard thread sizes: #4 through 1/4"; both open-end and closed-end thumb nuts; thumb screws with and without shoulders. Generous width, rounded edges, assure firm comfortable grip.

Mass produced in rustproof zinc alloy at low cost, with eye appeal to help sell your product.

As in all other GRC quality fasteners—wing nuts, cap nuts, wing screws — threads are clean and accurate.

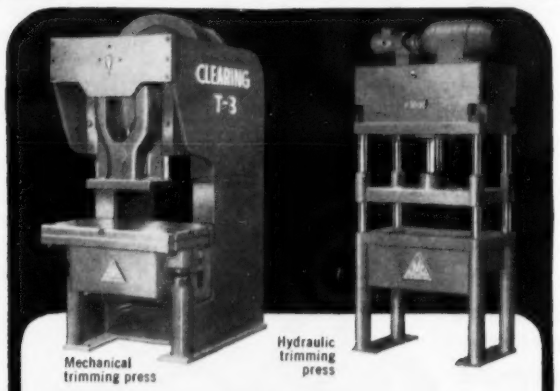
WRITE TODAY for prices & bulletin, or ask for quote on special needs.

See us at Booth 421 Design Engineering Show May 20-23, N. Y.

GRIES REPRODUCER CORP. World's Foremost Producer of Small Die Castings

143 Beechwood Ave., New Rochelle, N. Y. • NEw Rochelle 3-8600

For more details circle NED-191 E7 on enclosed inquiry slip



Trimming Presses
Mechanical and Hydraulic

If you have been using stamping presses for trimming operations on die castings, you'll welcome Clearing's new standard line of trimming presses. Featuring large bed and slide areas, these low cost presses give the user a fine machine specially designed for trimming operations. Available in either mechanical gap-type, or hydraulic column type.

Write Clearing for additional information.

CLEARING PRESSES THE WAY TO EFFICIENT MASS PRODUCTION
Clearing Machine Corporation, 6499 W. 65th Street
Chicago 38, Illinois • Hamilton Division, Hamilton, Ohio
Div. of U.S. Industries, Inc.

For more details circle NED-192 E7 on enclosed inquiry slip

NEW SPEED REDUCER Reference Bulletin

Specifications on almost 5,000 standard stock Cone-Drive speed reducers, including shaft mounted and fan or water-cooled models. Capacities from fractional to 665 hp. Center distances from 2" to 18".

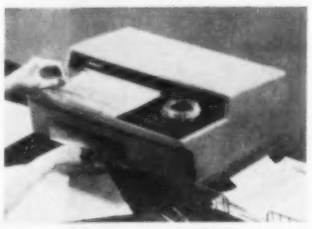
24 pages illustrated with assembly drawings, mechanical and thermal hp ratings, output torque and chain-pull ratings plus other useful facts.

Write for free Bulletin CD-218 today!

CONE-DRIVE GEARS
Division, Michigan Tool Company
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS
7171 E. McNICHOLS ROAD • DETROIT 12, MICHIGAN

For more details circle NED-193 E7 on enclosed inquiry slip

COPYING MACHINE
copies originals in 4 seconds



All electric, one-step dry process used in the improved, compact Thermo-Fax Secretary copying machine produces exact copies of originals in as little as 4 seconds. Restyled cabinet and pushbutton control are incorporated in the 45-lb machine which measures 15 x 19 x 9 in. Correspondence, records, sketches, diagrams and newspaper clippings can be copied. Step-front cabinet provides a working area adjacent to the paper intake louver. Machine takes all six colors of 8½-in. wide Thermo-Fax copy paper. Made by **Minnesota Mining & Mfg. Co.,** Dept. NED, 900 Bush St., St. Paul 6, Minn.

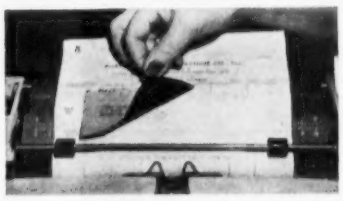
For more details circle NED-194 E7 on enclosed inquiry slip

LUBRICANT PUMP
dispenses cold oil or grease

Oil and grease are easily pumped in cold weather at pressures of 2500 to 5000 psi by the Big A portable bucket pump, offered in seven models for all types of lubrication fittings. Pump has a gasket sealed cover which eliminates dirt, moisture and spillage. Dynamic Primer insures constant delivery, and a foot valve assures full pressure on every stroke. Lubricant capacity is 35 lb. Made by **Stewart-Warner Corp.,** Alemite Div., Dept. NED, 1826 Diversey Pkwy., Chicago 14, Ill.

For more details circle NED-195 E7 on enclosed inquiry slip

SHIPPING STENCIL
addresses labels, tags, cartons



Coated with carbon on one side to permit typing or handwriting on business forms, the Carbon-Cote Tab-On shipping stencil can be prepared with single or continuous forms. It is tabbed over the "ship to" area of the order invoice or bill-of-lading form for preparation, is ready for use immediately with Weber handprinters or addressing machines for addressing labels, tags or cartons. Preparation can be on any business machine or with ball point pen. Made by **Weber Addressing Machine Co.,** Weber Marking Systems Div., 202 W. Central Rd., Mt. Prospect, Ill.

For more details circle NED-196 E7 on enclosed inquiry slip

SPEED HEAVY LOADS from one floor level to another

ON THE LEVEL

You eliminate dangerous ramps and inclines . . . reduce breakage and accidents . . . save wasted labor motion . . . when a Globe Ramp Eliminator is on the job.

Installed quickly indoors or out. No major building changes. Standard components insure immediate shipment.

Sturdy hydraulic cylinder positions platform flush with lower or upper level. Maximum rise: 58". Powered by air-oil or Globe Oil Pump.

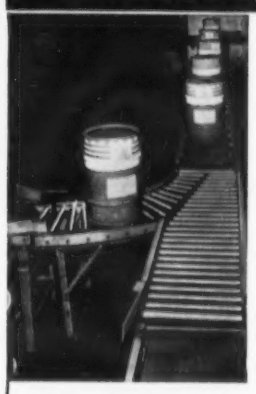
Write for complete data. Globe Hoist Company, East Mermaid Lane at Queen Street, Philadelphia 18, Penna.

GLOBE RAMP ELIMINATOR
PLANTS: DES MOINES—PHILADELPHIA—LONG BEACH, CAL.

For more details circle NED-197 E7 on enclosed inquiry slip

Take Advantage of All the Advantages...

FERGUSON CONVEYORS offer!



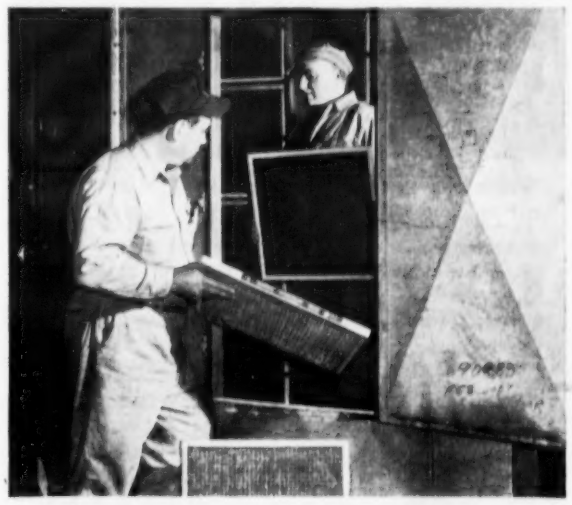
You eliminate manual handling between production operations...save space by keeping material off the floor ...coordinate men, material and machines...increase efficiency with less manual effort when you use FERGUSON gravity and power conveyors. That has been the experience of companies everywhere in many different industries using these conveyors.

Whether you're building a new plant, renovating your present plant or just want more efficient materials handling, include FERGUSON CONVEYORS in your plans. You'll like the way they cut the cost of doing business.

Write, wire or call for additional details.

HARRY J. Ferguson COMPANY
129 WEST AVENUE • JENKINTOWN, PA. • TUrner 4-4401

For more details circle NED-198 E7 on enclosed inquiry slip



They get cleaner air— with 50% Less Filters

Clean air and only *clean* air can be used to force-cool newly made bread at this large, modern bakery. And each cooler must take the heat off 100,000 loaves — each day—on their trip from oven to wrapper. This used to take a double bank of throwaway-type filters —changed with too costly frequency.

Then they made the switch to re-usable PLIOTRON filters —the first self-charging electrostatic air cleaners that are washable and re-usable. PLIOTRON *did the job with half the number of filters—gave 33% longer service — then could be re-used. They cut projected annual costs by 70%.*

And they got cleaner-than-ever air. For PLIOTRON filters have a permanent electrostatic charge that captures up to 5 times as many fine dirt particles as ordinary filters. What's more, they're not just surface-loaders—but *depth-loaders.* They never need oiling, and with a simple washing in hot or cold water—they last indefinitely.

A PLIOTRON super-filter for your plant? There's one designed to save you time and money in most any type or size air conditioning or forced-air heating system. See your PLIOTRON distributor — or write Goodyear, P. O. Box 288, Akron, Ohio.

for cleaner air everywhere—
PLIOTRON AIR FILTER BY GOODYEAR
THE GREATEST NAME IN RUBBER

Pliotron-T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-199 E7 on enclosed inquiry slip

Job-Designed!

PROTO Professional-Quality Pliers

for Your Needs!

NEW! Multiple-Groove Joint Utility Plier. Gives you a wide range of openings for hundreds of jobs. 242-7½", 243-9½". ***NEW! Mighty Midget Pliers for Electronics.*** You'll like the feel of these pliers for working on small objects in tight places. 6 models, 4" to 4¾" long. ***NEW! "Snip-Grip" Plier.*** Plastic inserts in cutting edges hold end of wire after you cut it. Prevents electrical shorts, protects you from injury. 204T-4½", 206T-6". ***NEW! Electronics & Ignition Cutting Plier.*** Cutter is close to tip. Spring opens long narrow jaws. ***Also NEW! Comfortable "Handeze" Plier Grips.*** Slip on easily, fit tight, are long wearing. Reduce fatigue. ***NEW! V-Notch Wire Stripper.*** Two V-notches cut through insulation, slight side pressure strips it. 299-5⅛". ***And...the Sensational Multi-Plier!*** Increases grip 10 times! 234-8". For all PROTO pliers, see your dealer, or send 10¢ for catalog of entire line to **PROTO TOOLS** 5602
2205 Santa Fe Ave.,
Los Angeles 54, Calif.
Eastern Factory, Jamestown, N.Y.
Canadian Factory, London, Ont.

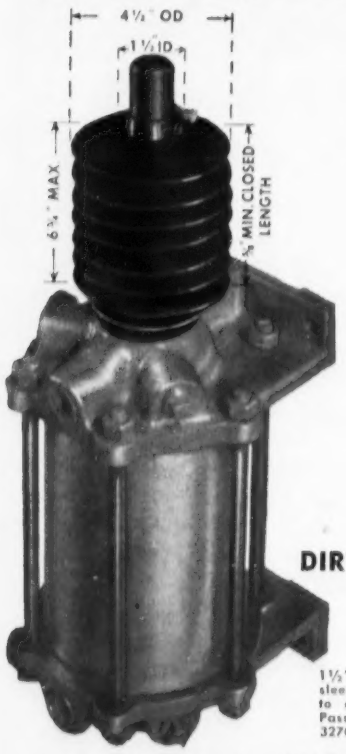
PROTO TOOLS
PROTO means PROfessional TOols

For more details circle NED-200 E7 on enclosed inquiry slip

PROTECTION
5 times more!

New methods in fabricating GORTITE® sleeves permit easily made changes in designs.

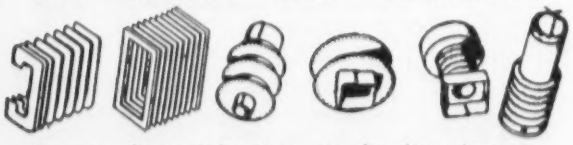
Whether the need is a 60", coated sleeve with zipper for a vertical drive on a steel mill or a 1½" ID on the cylinder as shown, GORTITE is the number one choice. GORTITE parts flex normally on their pliable, double-thick, convolution seams to give up to 5 TIMES LONGER PROTECTION against heat, cold, dust, chips, etc. Fabricated to order there's no mold charge for 1 or 1000. . . .



PLIABLE SLEEVES for LUBRICANT RETENTION and DIRT EXCLUSION

1½" x 4½" x 6¾" GORTITE sleeve on Nopak cylinder. Closes to a min. closed length of ⅝". Passes navy and aircraft tests AMS-3270 and MID-5-7719.

ALL SHAPES AND CONTOURS

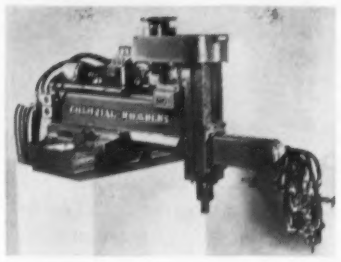


Numerous shapes and contours, samples shown here, are described in new bulletin SPC-3. Zippers and coatings further extend the range of usefulness for these pliable parts which are fabricated from DuPont (neoprene-base) Fairprene. Bulletins, suggestions on practical designs and cost estimates sent promptly on your request to . . .

A&A Mfg. Company Inc.
712 S. 12th Street • Milwaukee 4, Wis.

For more details circle NED-201 E7 on enclosed inquiry slip

CONTOUR MILL
with hand-guided tracer stylus has variable 40-3000 rpm spindle speeds



Hand-guided Hydro-Cycle contour mill is offered either as a complete machine or as the unit shown for "building block" erection. Both types will mill a broad range of metals with high accuracy for application ranging from small forming dies to aircraft components. Tracer attachment can be furnished with single-dimensional (depth), two-dimensional (360 degrees) or three-dimensional control.

Mill has 18-in. cross travel and 12-in. vertical travel. Longitudinal travel lengths of 32, 42 and 48 in. are available. Spindle speeds are infinitely variable from 40 to 3000 rpm, and full horsepower is available at all spindle speeds. "Building block" model is offered as a complete mill for individual mounting or for multiple setups on a common base. This unit has cross travels from 12 to 36 in. with vertical travel of 8 in. Made by **Colonial Broach & Machine Co.,** Colonial-Romulus Div., Dept. BW, Parkgrove Station, Detroit 5, Mich.

For more details circle NED-202 E7 on enclosed inquiry slip

VALVE ACTUATOR ASSEMBLIES
in duct sizes from 1 to 2½ in., operate at up to 300 psi pressures

Electro - pneumatic valve actuator assemblies are used to control amount of hot air mixed with cold air in air conditioning ducts of jet aircraft. Mechanical linkage enables valves to operate at variable duct pressures up to 300 psi. Pressure is reduced to a constant 15 psi needed to operate the valve. Sintered stainless filter for air keeps dirt out of valve mechanism.

On-off type assemblies and full-modulating variable opening types which operate in conjunction with magnetic amplifier controls are offered. Valves operate at any fixed response time from 1 to 10 seconds, and spring loaded piston causes valve to fail-safe. They will function at up to 1000° F and down to −75° F duct temperatures. On-off type requires 10 to 20 ma at 28 v dc, while full modulating type operates on 400 cycles ac at 115 v. Duct sizes from 1 to 2½ in. are made by **Vapor Heating Corp.,** Dept. PR-57, 6420 W. Howard St., Chicago 31, Ill.

For more details circle NED-203 E7 on enclosed inquiry slip

get the facts about forgings...

from the world's largest producer of brass, bronze and aluminum forgings . . .

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN 195

Please send me a copy of your ENGINEERING MANUAL H-58565
NAME _____
COMPANY _____
ADDRESS _____

For more details circle NED-204 E7 on enclosed inquiry slip

SWITCH FROM INVESTMENT CASTING TO STAMPED ASSEMBLY SAVES 71%

Short-Run Blanking Dies Cut Unit Cost from $1.48 to 43¢

Investment Casting Cost: **$1.48 EACH IN 1000 LOTS**
Complete Stamped Assembly Cost: **43¢ EACH IN 1000 LOTS**

An investment casting was formerly used involving additional machining operations. Converting to a brass stamped assembly gave the customer a more accurate, physically superior part at a 71% saving.

Consider D-R Stampings for your products. Send sketch, blueprint or part, plus quantity, for prompt quotation.

DAYTON ROGERS *Manufacturing Company*
Minneapolis 7E, Minnesota

For more details circle NED-205 E7 on enclosed inquiry slip

for *Every* Application

GIVE YOU GREATER SAVINGS

DARNELL CASTERS & WHEELS

It's in the Book

FREE

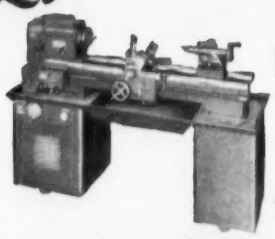
write for your copy Now...

get the FACTS!

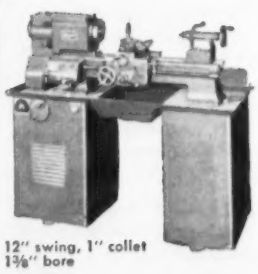
DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
30 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

For more details circle NED-206 E7 on enclosed inquiry slip

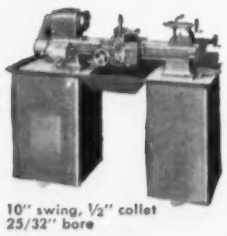
Logan **THE LATHES FOR SUSTAINED ACCURACY**



14" swing, 1" collet
1⅜" spindle bore



12" swing, 1" collet
1⅜" bore



10" swing, ½" collet
25/32" bore

You can continue to depend on Logans for precision results. On every type of lathe operation Logan sustained accuracy keeps performance at top efficiency. Ruggedly proportioned as well as precision built, Logan Lathes keep their accuracy after years of use in tool room, shop or production.

Screw Cutting and Turret Lathes In a Wide Range of Sizes 9", 10", 11", 12" and 14" swing, all with Logan advanced design features.

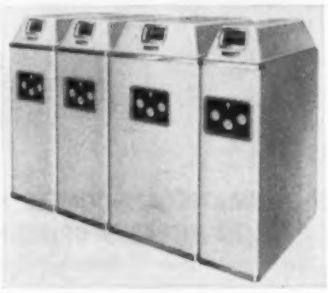
See your Logan dealer, or write for catalog information.

LOGAN ENGINEERING CO.
4901 West Lawrence Avenue, Chicago 30, Illinois

For more details circle NED-207 E7 on enclosed inquiry slip

AUTOMATIC BLENDER

blends liquids with precision accuracy



Xacto precision blending systems accurately mix, compound or blend lube oils, cutting oils, beverages, coolants, chemicals and many other liquids in a closed system process that eliminates costly batching. A simple setting of the percentage selectors provides a variation of blend from ½% to 100%. Xacto meter with its positive displacement principle of measurement assures perfect proportioning of all liquids. Two or more units may be required depending on the number of liquids to be blended. A full color, 12-page folder, outlining many advantages of blending system over outmoded batch method is available by writing **BOWSER, INC., 1381 E. CREIGHTON AVE., FORT WAYNE, INDIANA.** *Advt.*

▲ For more details circle **NED-208 E7** on enclosed inquiry slip ▲

This control relay you install and forget

"How long will it last?" is a question you must ask every time you buy a control relay. The answer is: "Good for MILLIONS of operations" when you specify a Westinghouse Type NH relay. Here is positive performance, day in and day out.

For example, a neoprene shock washer on the base plate prolongs magnetic life by absorbing operational shocks. It also compensates for any mounting irregularities. Through the use of large-area fine silver contacts and consistently high contact pressure, contact resistance is kept very low. And all bearing surfaces are specially case hardened to keep wear to a minimum to insure proper operation.

The Type NH relay is available in any combination of open or closed contacts . . . up to 6 poles. Rated at 10 amperes continuous—up to 600 volts a-c.

FOR COMPLETE TECHNICAL INFORMATION on the Type NH, write to: Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa. J-30272

YOU CAN BE **SURE**...IF IT'S

Westinghouse

▲ For more details circle **NED-209 E7** on enclosed inquiry slip ▲

PRODUCT LIFE TESTER

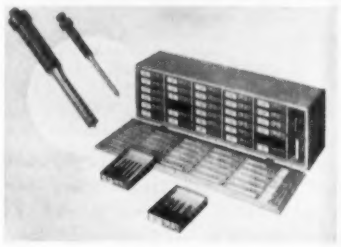
provides on-off power cycles

On-off power cycles adjustable to any period from 1/10-second to 15 minutes are provided by type 1000 product life tester for making accelerated life tests on electrical and mechanical devices. Unit operates on 117-v 60-cycle power and will make and break circuits up to 15 amp. A counter to register accumulated test cycles is optional. Made by **Paraplegics Mfg. Co.**, 10070 Franklin Ave., Franklin Park, Ill.

▲ For more details circle **NED-210 E7** on enclosed inquiry slip ▲

PUNCH BLANK ASSORTMENT

cabinet contains 30 different sizes

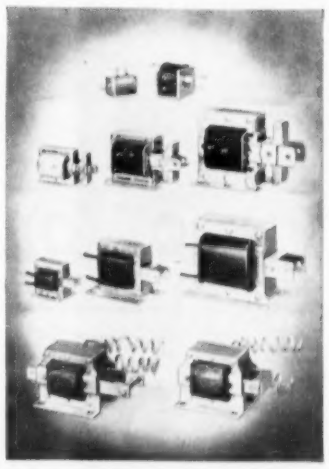


Supplied in drawer-equipped wood cabinets, three assortments of hardened, centered and Tru-ground punch blanks include five each of 30 different sizes. Basic, heavy duty, and close-spacing kits will supply about 85 per cent of normal punch requirements. Made of A2 tool steel, the Rockwell 60-62 C blanks can be altered to any shape without loss of hardness. Offered by **Dayton Perforators, Inc.**, Dept. 20, 1336 Stanley Ave., Dayton 4, O.

▲ For more details circle **NED-211 E7** on enclosed inquiry slip ▲

STOCK SOLENOIDS

17 models with 34 specifications



Line of stock solenoids has double shading coils for high sealed pull without hammer or excessive alternating current hum. Included are 17 models with 34 widely differing specifications. Push and/or pull capacities range up to 45 lb, sizes from $1\frac{3}{8}$ x $1\frac{3}{8}$ in. to 3 x 3 in. and stroke lengths from fractional to 2 in. Electrical characteristics are uniform. All can be supplied in any quantity. Made by **Dormeyer Industries**, Dept. NDC, 3418 N. Milwaukee Ave., Chicago 41, Ill.

▲ For more details circle **NED-212 E7** on enclosed inquiry slip ▲

NEW HANDBOOK OF SMALL TOOLS AND ACCESSORIES

Here is our new, enlarged catalog with 1375 different items listed and described — more than 230 illustrations. Such essential tools as cutters, vises, arbors, rotary tables, chucks, collets, master copy type and other tool room and production line necessities are all within the covers of this 52-page book. Yours without obligation on letterhead request.

A 8929-1/9-R

GORTON

GEORGE GORTON MACHINE CO.
1905 Racine St. Racine, Wis.

▲ For more details circle **NED-213 E7** on enclosed inquiry slip ▲

Automatic TRANSPORTER

LEADS ITS FIELD IN COMPACTNESS ...EFFICIENCY...ECONOMY

The above TRANSPORTER definitely improved handling of finished parts for Rockwell Mfg. Co., makers of valves and meters. Automatic TRANSPORTERS are available in many types...low and high lift platform and pallet models...forks, straddle and retractable mast type stackers...tractors. These short compact trucks combine all the advantages of electric power with many operating advantages exclusive with Automatic...perform all functions of standard rider-type trucks yet cost less. Write for information including lease or purchase plans.

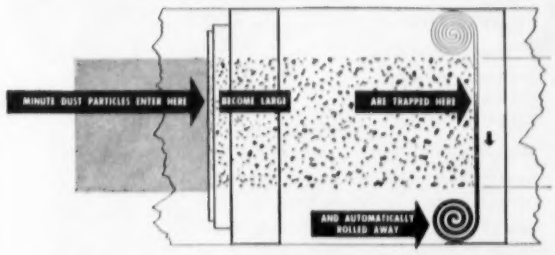
Automatic® 61 W. 87th St., Dept. E-7, Chicago 20, Illinois

WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

▲ For more details circle **NED-214 E7** on enclosed inquiry slip ▲

ROLLOTRON

eliminates scheduled air filter maintenance!



ROLLOTRON—the *new idea* in air filtration—offers the ultimate in efficiency, and requires *no scheduled maintenance!* The ROLLOTRON's precipitator section cleans the air electronically, and the dirt is automatically wrapped up in a handy disposable roll in the storage section. Get all the facts . . . send now for Bulletin 249.

American Air Filter
COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

▲ For more details circle **NED-215 E7** on enclosed inquiry slip ▲

NEW Rockwood Ball Valves

Forged brass for greater tensile strength and safety

Full, Round Flow! The new Rockwood Forged Brass Ball Valve assures you of Full, Round Flow — you get fast, efficient operation (¼ turn opens or closes valve) and less friction loss. The handle can be attached in any of 8 different positions for greatest convenience.

Leakproof! In closed position the pressure of fluid in the Rockwood Forged Ball Valve *automatically* positions ball against the synthetic rubber seat to form a tight, leakproof seal. Several seat materials are available for different applications.

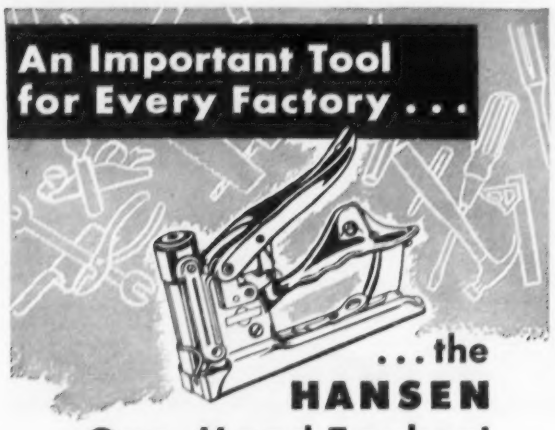
Longer Wear! The bronze ball in the Rockwood Forged Valve is chrome-plated to stand up under abrasion, pitting and scratching.

It all adds up to longer time between replacements . . . less maintenance on the job — more for your money in every way. Available in all pipe sizes. Tested and listed by Underwriters' Laboratories, Inc. Write for further information to —

ROCKWOOD SPRINKLER COMPANY
1352 Harlow Street, Worcester 5, Mass.

▲ For more details circle **NED-216 E7** on enclosed inquiry slip ▲

An Important Tool for Every Factory . . .



. . . the HANSEN One-Hand Tacker!

Skilled Workmen, Tradesmen, Carpenters, Mechanics, Displaymen . . . find 1001 uses for the HANSEN One-Hand Tacker. Every Tool Kit and Work Bench should be equipped with this handy, versatile tool—and HANSEN makes the best! . . . for insulation, shelving, material and trim, upholstery, screens, posters and banners, window shades, rugs, toys, venetian blinds . . . any job where you would normally use a hammer and tacks.

Choose from 36 different models from heavy duty to hobbyist types—80 tack point sizes. Remember to specify HANSEN . . . the leading name in Tackers!

T-4571 Write for Free Booklet

A. L. HANSEN MFG. CO.
5164 Ravenswood Ave. • Chicago 40, Ill.

For more details circle NED-217 E7 on enclosed inquiry slip

quadrill
4 Position Drilling and Tapping TURRET HEAD

Does the work of 4 drill presses

DRILLS • REAMS
COUNTERSINKS
COUNTERBORES

The quadrill performs all these operations without setting up each time. Any of four cutting tools can be brought into drilling position by indexing the turret. A real time and cost saver!

FITS ALMOST ANY DRILL PRESS

TAP with the quadtapper

FOR USE ON QUADRILL ONLY

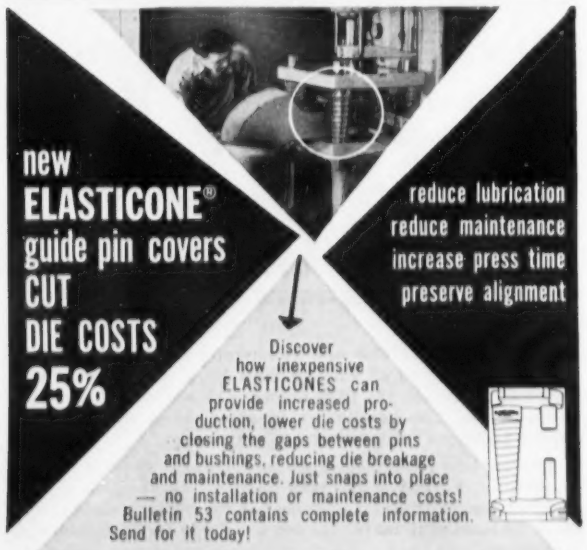
By attaching the QUAD-TAPPER to any of the four spindle assemblies of the QUADRILL, you can drill and tap almost simultaneously. Affords accurate tapping at high speeds.

DESIGNED FOR PRODUCTION COST CUTTING

Send for complete details of both QUADRILL and QUAD-TAPPER construction and operation features.

CHICAGO QUADRILL Company
1856 BUSSE HIGHWAY • DES PLAINES, ILL.

For more details circle NED-218 E7 on enclosed inquiry slip



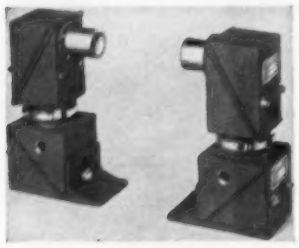
CENTRAL Safety Equipment Co.
6607 MARSDEN ST. PHILADELPHIA 35, PA.

For complete information on Elasticones and a copy of Bulletin 53 use convenient coupon.

Name_____ Title_____
Firm Name_____
Address_____
City_____ Zone____ State_____
NED-5-57

For more details circle NED-219 E7 on enclosed inquiry slip

PHOTOELECTRIC CONTROLS
plug-in units are easily replaced



Dark-actuated and light-actuated photoelectric controls, photoelectric timing controls and a series of light sources are available with plug-in mountings for 115 v and 230 v, 50-60 cycles. Controls and light sources plug into sockets in separate bases and are secured by snap-action clamps. Sockets swivel for alignment, and a soft neoprene gasket seals out dust. All housings are cast aluminum. Approximate dimensions of either unit, including base, are 10¾ x 4 x 4 in. Made by **Autotron, Inc.**, Box 722-D, Danville, Ill.

For more details circle NED-220 E7 on enclosed inquiry slip

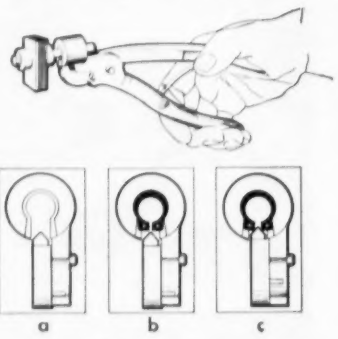
TIME DELAY AIR VALVE
delay ranges from 0 to 30 seconds

Time delay between the release of the electrical impulse on the solenoid of the air valve and the return of the cylinder to its original position is incorporated in the model BVP-ATD Hi-Cyclic time delay air valve. Delay time is adjustable between 0 and 30 seconds, and repetition accuracy is ±10 per cent. Lag is accomplished without special switching. Port sizes are ¼ to 1 in. Made by **Beckett-Harcum Co.**, 1147 Wayne Rd., Wilmington, O.

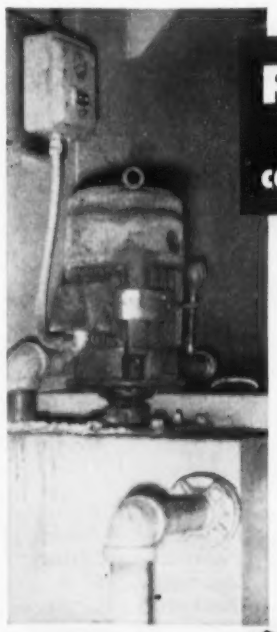
For more details circle NED-221 E7 on enclosed inquiry slip

GRIP RING ASSEMBLY TOOL
spreads ring for installation

Truarc series 5555 grip rings are spread to the exact diameter required for installation by plier-type model GR assembly tool. Front end of tool consists of a hardened tool steel head with nest for holding the ring and a wedge-shaped ring spreader. Tool is suited to high volume production and prevents ring from being overspread to a permanent set. Three sizes accommodate series 5555 - 15, -18 and -25 rings for seating over 5/32, 3/16 and ¼-in. shafts, respectively. Drawings show initial position to receive ring (a), ring seated in nest (b), and ring spread in nest by wedge (c). Made by **Waldes Kohinoor, Inc.**, Dept. 057, 47-16 Austel Pl., Long Island City 1, N. Y.



For more details circle NED-222 E7 on enclosed inquiry slip



RELIANCE solves motor corrosion problem

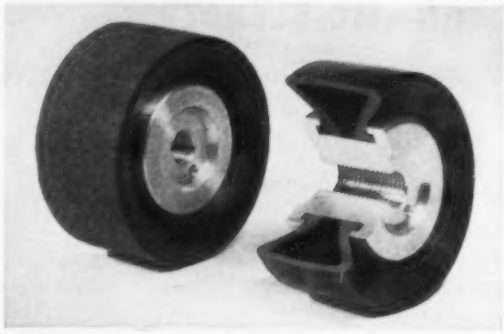
This Reliance Corrosion-Proof Motor is operating a pump which circulates cleaning solution through a tank containing metal parts. The motor is subjected to corrosive vapors and liquids each time a basket of parts is removed. BUT THIS MOTOR WILL NOT CORRODE.

This Reliance motor provides built-in corrosion protection that will keep it operating for years.

Write for bulletin B-2406 for complete design details. B-1634-B

RELIANCE ELECTRIC AND ENGINEERING COMPANY
DEPT. 245A, CLEVELAND 17, OHIO
CANADIAN DIVISION: WELLAND, ONTARIO
Sales Offices and Distributors in Principal Cities

For more details circle NED-223 E7 on enclosed inquiry slip



NU-MATIC ANNOUNCES NEW PRINCIPLE IN INFLATED GRINDING WHEELS

The new "Aircore" design consists of only TWO parts . . . the drum and the core. And, it is SELF SEALING . . . as the hollow rubber drum is inflated it automatically makes positive, leak-proof contact with the metal core.

Check these PLUS features:

PRECISION OPERATION. Wheel always runs true because rubber drum seats on accurately machined ledge of core. Vibration-free operation.

FEWER PARTS TO STOCK AND MAINTAIN. No nuts, bolts or sideplates.

TROUBLE-FREE CORE. Made of machined aluminum. Can't break, crack or leak. Will last a lifetime.

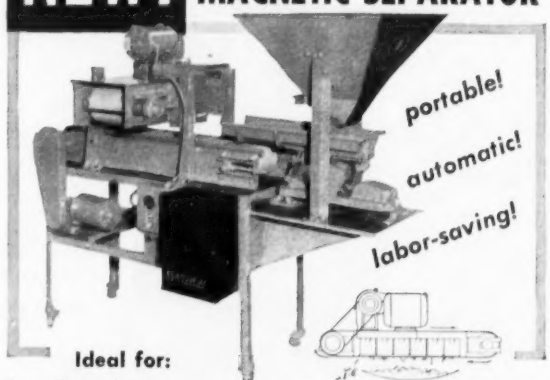
Three models are available: 3" diameter x 2" width, 4" diameter x 2" width, 5" diameter x 3½" width.

WRITE FOR COMPLETE SPECIFICATIONS. Also, ask about Nu-Matic's new "Flexcore" . . . an expanding-type grinding wheel with replaceable rubber segments.

NU-MATIC GRINDERS, INC.
8224 Carnegie Ave. Cleveland 3, Ohio

For more details circle NED-224 E7 on enclosed inquiry slip

NEW! DINGS general-purpose MAGNETIC SEPARATOR



Ideal for:
Scrap Separation, Tumbling Barrel Applications

Just wheel this new Dings TBS all-purpose Magnetic Separator right up to the job! Quality of separation and product purity are improved because feed rate can be controlled and magnetic intensity adjusted.

HERE'S HOW IT WORKS
Dings TBS consists of a portable conveyor, hopper with adjustable gate, vibrating feeder, and a Self-Cleaning Perma-Plate Magnet. An even layer of material is fed to the conveyor, and as it passes under the magnet, iron is lifted to the moving cross-belt and discharged to one side.

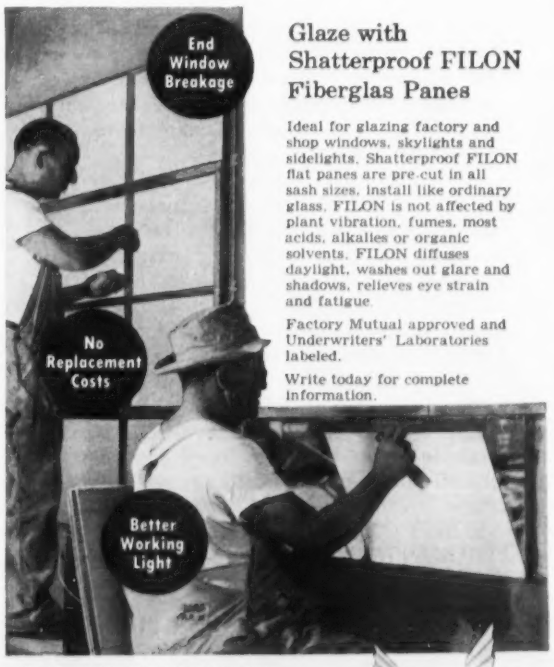
Dings

New Dings TBS units are completely field tested for effective performance. Write for details in Bulletin 1215-A.

DINGS MAGNETIC SEPARATOR CO.
4758 W. Electric Ave., Milwaukee 46, Wis.

TBS-267 1/9

For more details circle NED-225 E7 on enclosed inquiry slip



Glaze with Shatterproof FILON Fiberglas Panes

Ideal for glazing factory and shop windows, skylights and sidelights. Shatterproof FILON flat panes are pre-cut in all sash sizes, install like ordinary glass. FILON is not affected by plant vibration, fumes, most acids, alkalies or organic solvents. FILON diffuses daylight, washes out glare and shadows, relieves eye strain and fatigue.

Factory Mutual approved and Underwriters' Laboratories labeled.

Write today for complete information.

Wonderchild of Building Materials – Fiberglas and Nylon Reinforced Panels

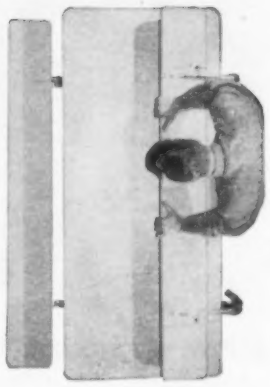
FILON PLASTICS CORP.
2051 East Maple Ave., El Segundo 36, Calif.

FILON

For more details circle NED-226 E7 on enclosed inquiry slip

free booklet

shows how your seating dollar buys more with the SICO system!



The Model 1900 (illustrated) is another member of the famous SICO line. Designed for the utmost in efficient seating, minimum maintenance requirements, the Model 1900 features:

- "Unitized" structural steel frame
- Long-wearing melamine plastic top
- Fold-up benches for easy cleaning and floor maintenance.

If your seating problem demands fixed seating, these rugged, attractive SICO tables offer the most economical solution.

The complete SICO line includes folding table-bench units, folding tables, and fixed tables with folding benches.

free booklet

shows how the SICO System saves you money, gives you *extra* floor space in your plant! Write today to:

SICO

manufacturing company, inc.
5215 Eden Avenue South
Minneapolis 24, Minnesota • Dept. 512

▲ For more details circle NED-227 E7 on enclosed inquiry slip ▲

Stay ahead of your competitors

with these Production Advantages:

★ Get BETTER and MORE UNIFORM QUALITY OF PRODUCTS!
★ DETECT and eliminate UNNECESSARY OPERATIONS!
★ AVOID OVER-FINISHING!
★ FURTHER SAVE TIME in Sizing and Finishing!

You can gain these advantages, and more, through specification and control of surface roughness with the PROFILOMETER®. The methods are easy to apply, and are based on the following facts:

(1) In many cases, the performance of a part in service depends on whether it is smooth enough — or rough enough — often within close limits.

(2) Entirely apart from product quality, roughness control is the key to substantial *production economies.*

(3) The Profilometer quickly *measures* roughness, with *dependable accuracy*, in microinches — *at the machines.*

FREE BULLETIN LT14 gives details. Write for it!

Profilometer is a registered trade-mark.

MMC MICROMETRICAL MANUFACTURING COMPANY
333 S. Main St. Ann Arbor, Michigan

▲ For more details circle NED-228 E7 on enclosed inquiry slip ▲

LIMITED SPACE?

then use a

Snap-on

BOXOCKET

Some jobs are "naturals" for a *Snap-on* Boxocket. Especially when space is too small for a socket wrench. It slips onto the nut easily . . . gripping firmly on all corners. The offset handle gives ample clearance, avoids skinned knuckles . . . long handle length adds powerful leverage. These Boxocket features add speed and safety to your jobs. Complete range of types and sizes. Forty-eight factory branches provide fast, convenient *Snap-on* service to all industrial areas.

SNAP-ON TOOLS CORPORATION
8110-E 28th Ave., Kenosha, Wis.

*Snap-on is the trademark of Snap-on Tools Corporation

Snap-on Tools
THE CHOICE OF BETTER MECHANICS

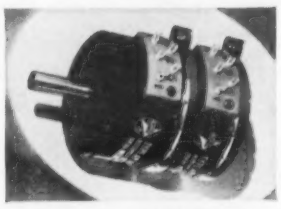
▲ For more details circle NED-229 E7 on enclosed inquiry slip ▲

CIRCUIT TESTER
bulb brightness indicates voltage

Electric circuits from 90 to 600 v can be tested with this Bakelite neon Detecto-Lite. Brightness of neon bulb will indicate approximate voltage. Light will indicate alternating or direct current, show how many cycles and will detect live and ground wires. It can also be used to detect blown fuses, defective spark plugs, resistors, condensers and insulation. The No. 914 tester is nonflammable and has a pocket clip. Made by **Eagle Electric Mfg. Co.,** 23-10A Bridge Plaza S., Long Island City 1, N. Y.

▲ For more details circle NED-230 E7 on enclosed inquiry slip ▲

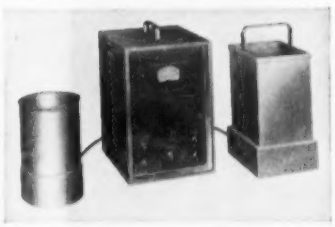
NONLINEAR POTENTIOMETERS
for sine-cosine, square-law uses



Nonlinear, precision wire-wound Acepot potentiometers in standard and subminiature sizes is offered in prototype and production quantities. Units assure high resolution and close conformity for generation of sine-cosine and square-law functions, transmission of angular information, nulling in nonlinear systems and electro-mechanical data conversions. Standard sine-cosine units are available in AIA sizes 30 and 20 with tolerances of ±0.5 and ±1.0 per cent peak to peak, respectively. Square-law Acepots are made in AIA sizes 30 and 20 with tolerances of ±0.25 and ±0.75 per cent independent conformity, respectively. Units meet military specifications. Made by **Ace Electronics Associates, Inc.,** Dept. NED, 103 Dover St., Somerville 44, Mass.

▲ For more details circle NED-231 E7 on enclosed inquiry slip ▲

ULTRASONIC CLEANER
150-w unit can also mix solutions



Bearings, delicate mechanisms and other objects can be effectively cleaned in the laboratory type portable Labsonic cleaner, also suited for experimental mixing of emulsions and solutions. Power unit shown can operate two 6½-in. diameter by 7-in. deep tanks (left), or two 8 x 6½ x 10-in. rectangular tanks (right) alternately. Latter tanks have stainless steel basket and drain valve. All components and controls of the 150-w generator are in a metal cabinet. Barium titanate transducers are connected to generator with 6-ft coaxial cable and operate at a frequency of 35-40 kc. Made by **Labline, Inc.,** Dept. NE, 3070-82 W. Grand Ave., Chicago 22, Ill.

▲ For more details circle NED-232 E7 on enclosed inquiry slip ▲

INDUSTRIAL WIRE CLOTH

• REYNOLDS WIRE DIVISION of the National-Standard Company produces industrial wire cloth in standard and special weaves in a complete range of meshes, metals, alloys and coatings . . . in all normally required widths.

Write to Reynolds for specific information on the products we make and on our facilities for developing special wire cloth to fit your specifications.

Reynolds Wire Division • Dixon, Illinois

NATIONAL NS STANDARD

▲ For more details circle NED-233 E7 on enclosed inquiry slip ▲

THIS is No Ordinary Power Hack Saw Blade

This is the *unbreakable* MARVEL High-Speed-Edge Hack Saw Blade—the first bi-metal blade—invented, developed and introduced by MARVEL. This blade was developed to cut any material from the free machining steels to the toughest alloys, fast, accurately and economically. Just one type blade to handle any job—no switching blades to cut different materials.

MARVEL blades can be tensioned from 200% to 300% more taut than ordinary blades. This advantage permits heavier feed pressures to be used without deflection or fear of breakage.

This rugged cutting tool assures outstanding economy, accuracy, long life and complete safety—*it is unbreakable.*

Ask for MARVEL Blades by name and you can be sure you're getting the best. Leading Industrial Distributors have them in stock. Write for latest Cutting Tool Bulletin. FB-1021

ARMSTRONG-BLUM MFG. CO.
5700 W. Bloomingdale Ave., Chicago 39, U.S.A.
Manufacturers of the Outstanding MARVEL Metal Saws

▲ For more details circle NED-234 E7 on enclosed inquiry slip ▲

MODEL WL4F
Capacity: 4,000 lb.

PACKS
TWICE The POWER*
OF ORDINARY WALKIES

***12 volts for normal operation - - 24 volts for extra power!**

NEW
RAYMOND *Walkie*

BY USING four 6-volt auto batteries (rather than a single 12-volt industrial battery) the Raymond Walkie gives you dual voltage . . . 12 volts for all normal operations, plus a surge of 24 volts for long hauls and for negotiating steep ramps with full capacity loads.

This totally new Walkie offers you other distinct advantages too. For example, 3 separate speeds, forward and reverse . . . an exclusive safety control to protect the operator in tight spots . . . convenient, handle-located operating controls . . . greater maneuverability for working in narrow aisles . . . lighter overall weight without sacrificing capacity or durability.

Clip & Mail!

The RAYMOND CORPORATION
4122 Madison St., Greene, N.Y.

Rush me full details on your new RAYMOND Walkie.
☐ Send Bulletin. ☐ Have representative call.

NAME TITLE
COMPANY
STREET
CITY STATE

▲ For more details circle NED-235 E7 on enclosed inquiry slip ▲

Our low priced selection of STANDARDS contains hundreds of sizes, widths, weights, plain colors and fancy patterns from which you may choose. You'll SAVE at any rate but if you find that one of our hundreds of "STANDARDS" is actually an item you are now buying elsewhere at a "SPECIAL" price . . . you'll DOUBLY save! This really happens every week because we are America's oldest webbing manufacturer offering cotton, nylon, dynel, dacron, jute combed peeler mercerized and high tensile.

We also manufacture a complete line of WOVEN COTTON CONVEYOR BELTS and PURE SHEET RUBBER.

BUFFALO WEAVING and BELTING CO. INC.
210 CHANDLER ST. BUFFALO 7, N. Y.
write for samples and prices!

▲ For more details circle NED-236 E7 on enclosed inquiry slip ▲

TO PURCHASING AGENTS ONLY!

FREE! Your Choice...
Evans KING SIZE 10-ft. White-Tape (EXTRA-WIDE BLADE)
or Evans Pocket 12-ft. White-Tape (REGULAR ½" WIDE BLADE)

Attention Purchasing Agents:
We make this startling offer to introduce your company to Evans' superior King-Size and Pocket White-Tapes, the finest measuring tapes manufactured.
Simply fill in the coupon below and we'll send you, absolutely free and without any obligation, your choice of either our King-Size 10-ft. ($2.39 retail) or Pocket 12-ft. White-Tape ($1.89 retail)! (Offer limited to one tape per purchasing agent.)
We feel that once you try Evans Tapes, you'll never buy another brand. Here's why:

EVANS KING-SIZE
10-ft. ¾" Wide Steel Tape Stands Up Straight for Easy One-Man Measurements.
The 33% wider blade (full ¾") stays straight up—will not bend when making measurements. Chrome plated zinc die-cast case. Free belt clip for handy carrying and Free Tenite Utility Case. Self-adjusting sliding hook for accurate inside-outside measuring.
Also available in 6, 8, 12-ft. lengths.

All EVANS Tapes are marked so your men don't have to figure!
Work in feet and inches? Read Here
Work in inches? Read Here

EVANS 12-ft. Pocket WHITE-TAPE
Measures a full 12 feet—eliminates adding two measurements as with shorter tapes. Regular ½" wide blade. Chrome plated zinc die-cast case. Self-adjusting sliding hook for 100% accurate inside or outside measurements. Free transparent Tenite Utility Case.
Also available in 6, 8, and 10-ft. lengths.

Evans RULE CO., Dept. 128, Elizabeth, N.J.
Please send me free sample of (check one)
☐ King-Size 10-ft. Steel Tape ☐ Pocket 12-ft. White-Tape
☐ Send catalog page on Evans Tapes with custom name-plates for gifts to our customers carrying our advertising message.
My two sources of supply for steel tapes are:
1) _____
2) _____
Name _____ Title _____
Company _____
Address _____
City _____ Zone ____ State _____

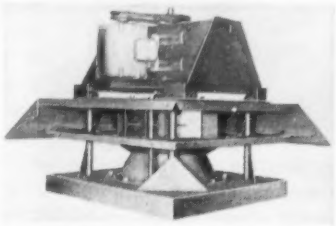
For quick, efficient service call your Industrial Distributor. He is your most economical source of supply.

SCREW-ON TOP for glass aerosol containers

Coated or uncoated glass bottles can be fitted with screw-on tops to make refillable aerosol containers. Drill press capping machine is also offered for rolling and fastening aluminum or steel valves to the top of glass bottles. Production is about two per minute. Actuation is by foot switch. Samples of special bottles will be accepted to make sure of top fit. Made by **Builder's Sheet Metal Works, Inc.**, Dept. N, 108-110 Wooster St., New York 12, N. Y.

▲ For more details circle NED-237 E7 on enclosed inquiry slip ▲

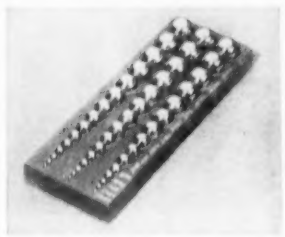
POWERED ROOF VENTILATOR provides static pressures to 2 in.



Applicable where ductwork or hoods impose considerable resistance as well as for light duty without ductwork, Centrilator centrifugal powered roof ventilator gives static pressures up to 2 in. and features Jet Siphon action and streamlined air flow. Four bolts secure it to the roof. Unit requires a low curb and has a low overall height. Fan wheel is statically and dynamically balanced, and the motor is mounted on side rails. Ten standard sizes have capacities from 1488 to 26,400 cfm. Made by **Clarage Fan Co.**, Dept. N, Kalamazoo, Mich.

▲ For more details circle NED-238 E7 on enclosed inquiry slip ▲

SIZING & GAGING BALLS are made to 0.000025-in. tolerance



Added to line of gaging products are these precision micro-balls designed as a time-saving aid to machinists, inspectors, mechanics, engineers, toolmakers and layout men. These hardened, polished chrome steel balls range in size from 1/16 to ½-in. diameter and are made to tolerance of 0.000025-in. There are 15 sizes, three balls of each size. Balls are tightly fitted into snap-in holes of carrying case. Special tool pops them out. Ball sizes, listed on back of case in fractions and decimals, also serves as handy conversion table. Case measures 5½ x 3¼ in. Made by **Deltronic Corp.**, Dept. NED, 1507 Riverside Dr., Los Angeles 31, Calif.

▲ For more details circle NED-239 E7 on enclosed inquiry slip ▲

Only the Acousti-Booth is *Quiet*

BURGESS-MANNING "Hear-Here" Acousti-Booth

Talk and hear on the telephone—in *Effective Quiet*. "HEAR-HERE" Telephone Booths are acoustically corrected to eliminate interfering noises from the shop, office machines, passing trains and other traffic. You feel like you are stepping into another world when you step into a "HEAR-HERE" Acousti-Booth.

And notice!
- No Doors — always fresh air
- No Corners — to collect dirt
- No Glass — to break

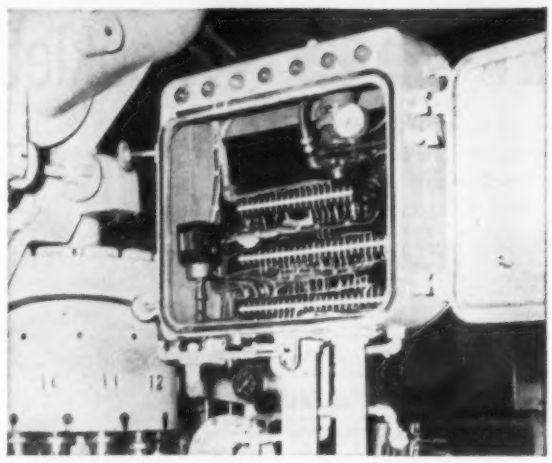
There's a model for every type of location.

Performance Guaranteed
Write for Catalog Bulletin

Architectural Products Division of
BURGESS-MANNING COMPANY
5968 Northwest Highway, Chicago 31, Illinois

Manufacturers of 3-Way Functional Ceilings and Acousti-Booths for Telephoning

▲ For more details circle NED-240 E7 on enclosed inquiry slip ▲



NEW WIRE FOR "HOT SPOTS"

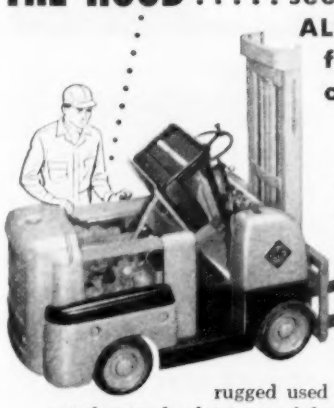
Anaconda's new Densheath* 900 all-purpose wire—made with a new, high heat-resistant PVC insulation—gives plants an extra margin of protection wherever wiring is exposed to chemicals, oil or moisture *at high ambient temperatures;* and affords greater current-carrying capacity! Densheath 900 is approved as Type TW and can be used in National Electrical Code applications. In other applications, it can be used to its maximum rating of 90°C copper temperature. Available in sizes 14 Awg to 2000 Mcm. Write for descriptive Bulletin DM-5612. Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y. 57348

ANACONDA®

*Reg. U.S. Pat. Off.

▲ For more details circle NED-241 E7 on enclosed inquiry slip ▲

LOOK UNDER THE HOOD . . . . . see a BIG reason ALLIS-CHALMERS fork trucks outperform



No matter how you look at it, fork truck performance starts with the engine. Allis-Chalmers engines are heavy-duty, industrial-type — the strongest and most rugged used in a fork truck. They put thousands of extra work hours into Allis-Chalmers fork trucks — keep them on the job.

Compare material moved per hour and you will quickly see what an engine with extra usable torque and responsive acceleration can contribute. Here is power to outproduce. Ask your Allis-Chalmers material handling dealer to tell you more, or send for literature.

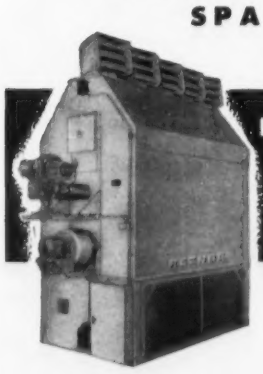
ALLIS-CHALMERS, MATERIAL HANDLING DEPARTMENT, BUDA DIVISION, MILWAUKEE 1, WISCONSIN

ALLIS-CHALMERS AC

BH-41

▲ For more details circle NED-242 E7 on enclosed inquiry slip ▲

HERE'S A NEW ANSWER TO INDUSTRY'S SPACE HEATING PROBLEMS



REZNOR-OLSON STAINLESS STEEL DIRECT-FIRED HEATERS

- 9 sizes, 400,000 to 2,000,000 BTU
- gas, oil or dual-fuel burners
- free-standing or suspended installation; easily adapted for use in duct systems
- quick and easy to install—just make fuel, electric and vent connections
- completely automatic operation
- practically no maintenance required
- ideal for primary or supplemental heating in all types of industrial building, new or old
- write for free bulletin giving complete details and specifications

REZNOR
WORLD'S LARGEST-SELLING DIRECT-FIRED UNIT HEATERS

Reznor Manufacturing Company, Dept. N, Mercer, Pa.

▲ For more details circle NED-243 E7 on enclosed inquiry slip ▲

A simple, direct reading on the Alnor Velometer gives you an instant measure of air flow speed through grilles, ducts, furnaces, spray booths, or in the open.

Precision-built and self-contained, this portable instrument brings laboratory standards to the line or field installation. Available in a wide variety of scale ranges, full assortment of jets and fittings. You'll want all the facts (no safety department should be without a Velometer). Get Bulletin 2448-G. Attach this ad to your letterhead and mail to: Illinois Testing Laboratories, Inc., Room 529, 420 No. LaSalle St., Chicago 10, Illinois.

PRECISION INSTRUMENTS FOR EVERY INDUSTRY

Alnor

▲ For more details circle NED-244 E7 on enclosed inquiry slip ▲

EASIEST OF ALL SHEARS TO OPERATE!

"Easiest of all shears to operate"—so many operators say of Steelweld Pivoted-Blade Shears. These machines are radically different from all other shears. They have many new features heretofore unavailable that ease the work, speed production, increase accuracy, reduce maintenance.

Get the facts on Steelweld Shears. Built in all sizes for plate up to 30 feet long or 2" thick.

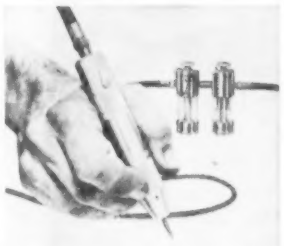
Send for free copy Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
6608 East 282nd St., Wickliffe, O.

STEELWELD SHEARS

▲ For more details circle NED-245 E7 on enclosed inquiry slip ▲

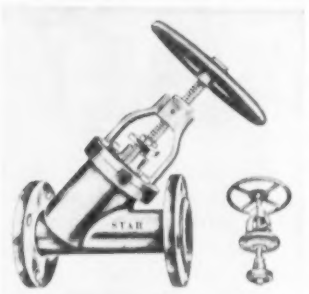
HIGH-SPEED PENCIL GRINDER is air-powered, 100,000-rpm unit



Operating speed of 100,000 rpm at 80 psi air pressure enables this Controlled - Air - Power pencil - size grinder to grind, deburr, cut, polish, die and mold-finish and engrave. Jet-type turbine rotor floats on a cushion of air. With such high speed, all bearing load is carried by the air stream, minimizing tool wear. Model GA-125 grinder is equipped with a FL-125 Lubri-Air filter-lubricator and 6 ft of nylon-reinforced hose. Made by **Bellows Co.**, 230 W. Market St., Akron 9, O.

▲ For more details circle NED-247 E7 on enclosed inquiry slip ▲

STAINLESS STEEL Y-VALVE has a renewable Teflon disk



Usable in chemical, process and other service involving corrosive or abrasive fluids, fabricated Y-valves are made from schedule 10 or 40 stainless steel pipe, plate and bar stock. They are thus matched to the pipe. Offered in 1, 1½, 2 and 3-in. sizes, they have renewable Teflon disks and are recommended for 125-psi service. They approach straight-through flow. Made by **Star Tank & Filter Corp.**, 873 Edgewater Rd., Bronx 59, N. Y.

▲ For more details circle NED-248 E7 on enclosed inquiry slip ▲

HIGH VOLTAGE CAPACITORS ratings from 25,000 to 200,000 v dc

These ultra-high voltage capacitors, for direct current filtering and storage for high-energy discharge circuits, find use in betatrons, nuclear accelerators, impulse-test apparatus, pulse networks, radar and x-ray units. Ratings range from 25,000 to 200,000 v dc. Higher capacitances and ratings are obtained by connecting additional units in parallel, series or series-parallel combinations. Extra strong phenolic cases provide long creepage path and maximum safety from flash-over between terminals. Cast aluminum end caps serve both as electrical terminals and mounting means. Made by **Cornell-Dubilier Electric Corp.**, 1047 Hamilton Blvd., South Plainfield, N. J.

▲ For more details circle NED-249 E7 on enclosed inquiry slip ▲

COST US NOTHING!!

READ HOW MAGLINER MOBILE LOADING RAMP PAID FOR ITSELF IN JUST 4 MONTHS

PROBLEM—*A ground level plant, Millington Mfg. Co., Upper Sandusky, Ohio. Lack of dock facilities necessitated costly hand loading and prevented efficient in-plant material handling.*

SOLUTION—Incoming shipments are now unloaded by power trucks using a Magliner magnesium Mobile Loading Ramp. One man unloads a 20,000 lb. shipment in 20 minutes that formerly took 12 to 16 manhours. Company now receives materials in 1,000 lb. containers (formerly 50 lb. bags)—effecting extra savings in processing and feeding presses. In the words of the manufacturer, "Our Magliner paid for itself in 4 months." *Actually, cost us nothing!*

Do you have an older building . . . need extra or movable dock facilities . . . want to avoid costly hand loading? A Magliner Mobile Loading Ramp is the practical solution. A loading dock on wheels, where you want it . . . when you want it! One man moves it.

Write for Bulletin DB-211
MAGLINE INC., P.O. Box 205
PINCONNING, MICHIGAN

MagLiner MAGNESIUM
Mobile Loading Ramps

Canadian Factory Magline of Canada, Ltd., Renfrew, Ontario

▲ For more details circle NED-250 E7 on enclosed inquiry slip ▲

Cambridge offers you complete wire cloth fabrication facilities

From giant retaining screens for catalysts or filter media to small strainer assemblies for Diesel engines, fabrication of wire cloth parts to a wide variety of demands is a daily operation at Cambridge. Whatever your needs . . . filter leaves, strainers, sizing screens, retaining screens . . . you can rely on Cambridge for quality and prompt service. We'll work from your prints or draw up prints for your approval.

IF YOU BUY WIRE CLOTH IN BULK, we can give you immediate delivery from stock on large or small orders for the most frequently used types of cloths . . . from the finest to the coarsest mesh.

Accurate mesh count and uniform mesh size are assured by individual loom operation and careful inspection just before shipment.

Let us quote on your next order for wire cloth. Call your Cambridge Field Engineer—he's listed under "Wire Cloth" in your classified telephone book. Or, write direct for FREE 90-PAGE CATALOG and stock list giving full range of wire cloth available. Describes fabrication facilities and gives useful metallurgical data.

The Cambridge Wire Cloth Company

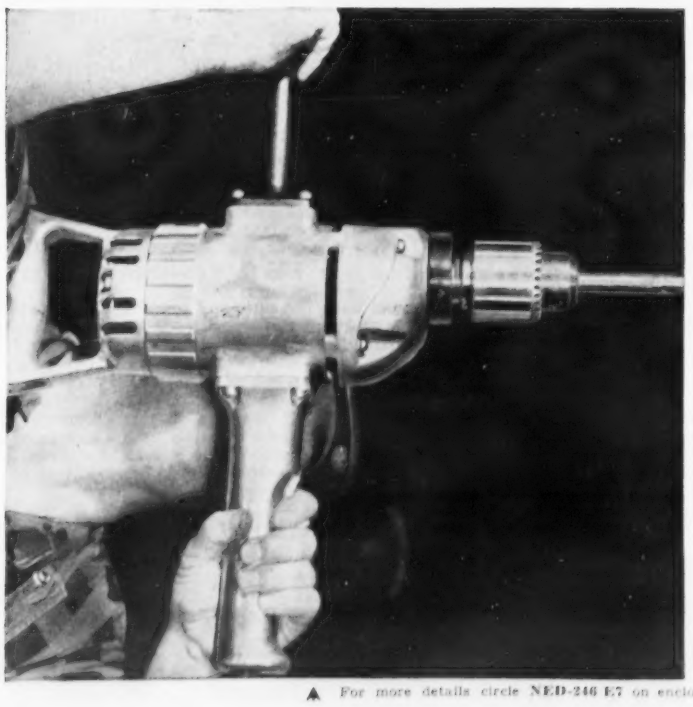
WIRE CLOTH | WOVEN WIRE CONVEYOR BELTS | WIRE CLOTH FABRICATIONS

Department C, Cambridge 5, Maryland

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

▲ For more details circle NED-251 E7 on enclosed inquiry slip ▲

New Black & Decker® Heavy-Duty Drills



OBSOLETE ANY DRILLS YOU'VE EVER TRIED!

Now, Black & Decker brings you the world's most powerful drills, built to a new design concept that obsoletes *all other drills* of similar capacity.

New B&D-built motors give them twice the power of their predecessors. Full-power reversible feature is built in at no extra cost to you. New positive key-drive chuck can't come off when tool is reversed—yet is disassembled in seconds. New, longer handles give easy control at maximum torque! Countless applications. Available in ½", ⅜", ¾" models. Write THE BLACK & DECKER MFG. Co., Dept. 1905, Towson 4, Md. (In Canada: 80-86 Fleet St., E., Toronto 2, Ont.)

Look Under "Tools-Electric" in Yellow Pages

Leading Distributors Everywhere Sell

Black & Decker®

Portable Electric Tools—Power-built to set the pace

▲ For more details circle NED-246 E7 on enclosed inquiry slip ▲

ELECTRAN

Multi-Purpose Step-Down **TRANSFORMERS**

. . . one transformer or a HUNDRED

Same day delivery from our stock. From 0.1 to 5.0 K.V.A. Ten standard types plus special variations to meet your specific conditions. A transformer you can depend on from a maker you can depend on!

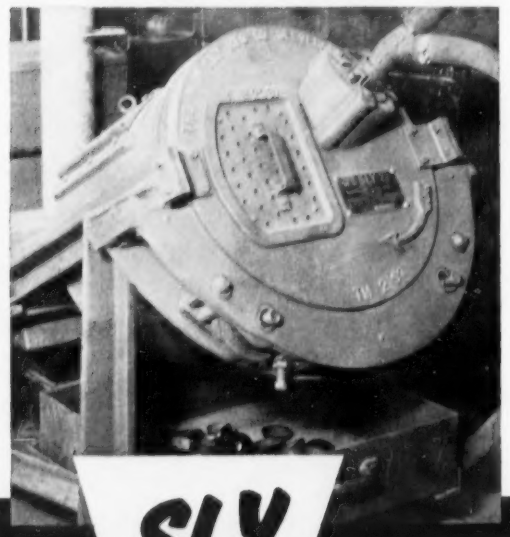
(We have never yet been notified of a field failure of any of these units unless overloaded or otherwise incorrectly used.)

Write for bulletin 47D

ELECTRAN MFG. CO.
1901 CLYBOURN AVENUE • CHICAGO 14, ILLINOIS

For more details circle NED-252 E7 on enclosed inquiry slip

BLASTCLEAN small Parts



THE SLY NO. 4 TILTED BLAST MILL

Offers you Thorough, Quick, Low Cost Cleaning

THOROUGH CLEANING. Because of its tilted position and the rolling action of the barrel, with convex perforated bottom plate, all pieces are brought to the top frequently and receive *short range, powerful blasting.*

QUICK, TOO. Not only do the pieces receive a direct blast at their greatest depth but also get the effect of rebounding abrasive particles within the load. And this speeds cleaning.

LOW COST CLEANING. Very simple in design and heavy in construction, this Blast Mill serves for years and years with the very minimum of maintenance. Add to this its *quantity production* and the result is low cost cleaning.

WIDE RANGE OF APPLICATION

Non-Ferrous Castings—Put them in the mill, cores and all, thereby eliminating time for core removal.

Forgings and Stampings—An infinite variety is being cleaned by this mill for purposes of grinding, dipping, painting, etc.

Hardened Steel Parts—Twist drills, reamers, piston pins, taps and dies, small cut gears, etc., for quick removal of heat treat scale.

Ask for Bulletin No. 82.

THE W. W. SLY MANUFACTURING CO.
4748 TRAIN AVENUE • CLEVELAND 1, OHIO
OFFICES IN PRINCIPAL CITIES

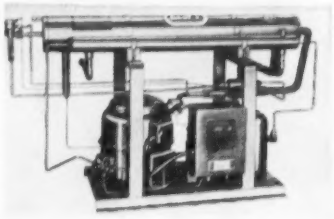
For more details circle NED-253 E7 on enclosed inquiry slip

PORTABLE DRAIN CLEANER carries 25 ft of ¼-in. cable

Portable electric auger model AF-57 drain cleaner weighs 7 lb 6 oz and provides 25 ft of ¼-in. cable. Used for quick, thorough cleaning of basin, tub, sink, toilet and similar plumbing drains, unit has an open hook end which removes hair, hairpins, lint and other foreign objects causing stoppage. Made by **Allan J. Coleman Co.,** 122 W. Illinois St., Chicago 10, Ill.

For more details circle NED-254 E7 on enclosed inquiry slip

PACKAGED WATER CHILLERS 2, 3 and 4-hp models offered



Designed for maximum space saving, RPC packaged chillers for light commercial chilled water air conditioning systems have Inner-Fin construction and nonferrous water passages. Unit also has insulated, metal-covered chiller, a hermetic compressor and such safety devices as overload protection, compressor starter, high and low pressure cut-outs, manual toggle switch for compressor and thermostatic control to insure against freezing. Models are rated 2, 3 and 5 hp for 230-v single-phase 60-cycle, 208-v and 220-v three-phase 60-cycle operation. Made by **Heat-X, Inc.,** 10 N. Main St., Brewster, N. Y.

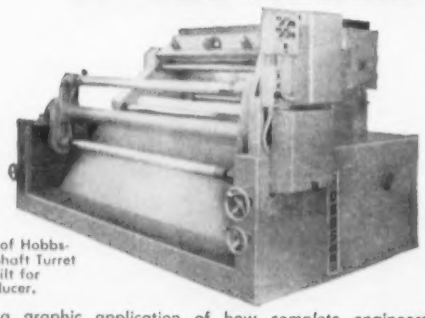
For more details circle NED-255 E7 on enclosed inquiry slip

WIRE CONNECTOR DRIVER joins wires with proper twist

Application of wire-nut and all-plastic wire connectors is speeded by this hand-operated electric wire connector driver. Wires are joined to the connectors with the proper twist and tension for good electrical connections. Compact driver has a squeeze-grip control and uses splined driver sockets that fith the particular wire connector used. Its motor stalls when proper tension is reached. Operation is on 115 v ac. Made by **Ideal Industries, Inc.,** 1032 Park Ave., Sycamore, Ill.

For more details circle NED-256 E7 on enclosed inquiry slip

Winding AFTER EXTRUDING AS ENGINEERED BY HOBBS-ALQUIST



Side view of Hobbs-Alquist 2 Shaft Turret Winder built for resins producer.

Here is a graphic application of how *complete* engineered winding after extruding can be when engineered by Hobbs-Alquist. At the plant of a leading resins producer a Hobbs-Alquist Winder installation is engineered to handle plastic film heat treating and slitting, then turret wind the material and take care of trim disposal . . . all tied into a previous process to make continuous operation a swift, sure, economical fact.

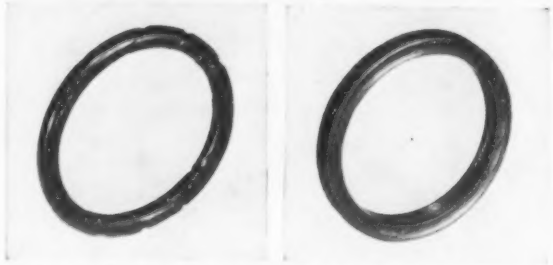
EST. 1885 *Send for the Brochure — Hobbs-Alquist Engineered Winding*

HOBBS MANUFACTURING CO.
41-E Salisbury St., Worcester 5, Mass.
Representatives in Irvington, N. J.; Chicago, Ill.; Cleveland, Ohio; Greenville, S. C.; Toronto, Ont.

WINDERS
HAND & POWER SHEARS
SLITTERS
DIE PRESSES
CORNER CUTTERS

For more details circle NED-257 E7 on enclosed inquiry slip

free samples and data on the revolutionary QUAD RING®



Standard O-ring seriously damaged by "spiral twisting" in its groove. This costly cause of O-ring failure in many applications can now be eliminated.

QUAD RING tested under same conditions as O-ring (*left*) and still in perfect condition. 4-lip action prevented "spiral twist", made perfect seal.

NOTE: QUAD RING is a Minnesota Rubber and Gasket Co. Trade Mark

You'll save money too. QUAD RING life produces big savings in replacement costs and reduced finishing costs. That's because QUAD RINGS will not "spiral twist" even with a 60-100 micro-inch groove finish. You get perfect sealing with rougher groove finishes, even at 0-5 psi, using less squeeze for reduced friction. In addition, injection molding means no flash.

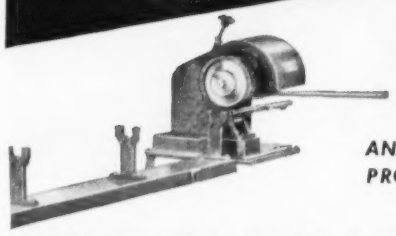
Your sample and literature free. A QUAD RING sample and complete technical data will be forwarded to you for inspection and testing. Just write today to:

Originators of modern injection molding

MINNESOTA RUBBER AND GASKET COMPANY
Dept. 609 3630 Wooddale Ave., Minneapolis 16, Minn.

For more details circle NED-258 E7 on enclosed inquiry slip

ZIP... ZIP...



CUTS TUBES FAST

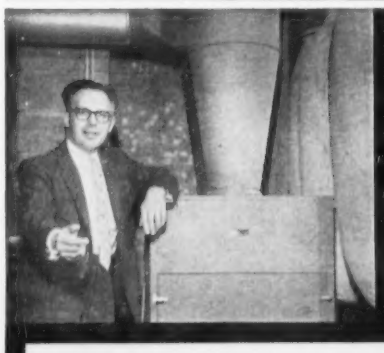
AND WE'LL PROVE IT . . .

Simply send us a sample of your tubes, we'll show you how clean and fast a Continental Rotary No. 1 Cut-Off Machine cuts, and return the pieces for your inspection along with actual time studies.

It zips right through tubes from ⅜" to 1¼" O. D., from light gauge to 16-gauge wall thicknesses. Cuts up to 2,000 pieces an hour, effortlessly, with just a stroke of the handle. Convenient, adjustable table with 5 Dual-Roller Forks. Also available, Cut-Off Machines for pipes and tubes up to 12" diameter, air or hand-operated. Request Catalog.

Continental MACHINE CO.
SINCE 1919
1952 N. MAUD AVE. • CHICAGO 14, ILL.

For more details circle NED-259 E7 on enclosed inquiry slip



"TORIT dust collectors saved us $3,000."

FREE BOOKLET shows you how to trap harmful dust better at less cost with TORIT.

Your plant can have the same initial savings and cost-cutting operation now enjoyed by the Sico Manufacturing Company, national producers of tables and seating equipment. Sico President, Kermit H. Wilson states, " . . the lowest bid we had for a central dust collection system of minimum capacity was just under $4,000. Our $900 Torit installation has completely solved our dust problem and gives us greater flexibility than would be possible with a central system." There's a TORIT Collector to meet every type of dust problem, why not investigate?

FREE facts on TORIT DUST COLLECTORS that reduce maintenance costs, up production, improve employee morale. Write today to:

TORIT MANUFACTURING CO.
287 Walnut Street, St. Paul 2, Minn., Dept. 202

For more details circle NED-260 E7 on enclosed inquiry slip

In which of these 5 areas is corrosion

costing you too much money?

1 Vessels that wear out too soon?
2 Processes that contaminate your product, reduce yield or corrode equipment quickly?
3 Heat exchangers that cost too much for service rendered?
4 Pipelines and valves that can't take hot or cold corrosives long?
5 Fumes which attack and destroy ducts or stacks fast?

Problems such as these exact a heavy toll in corrosion costs. Pfaudler's 72 years in the field of corrosioneering can help you minimize them.

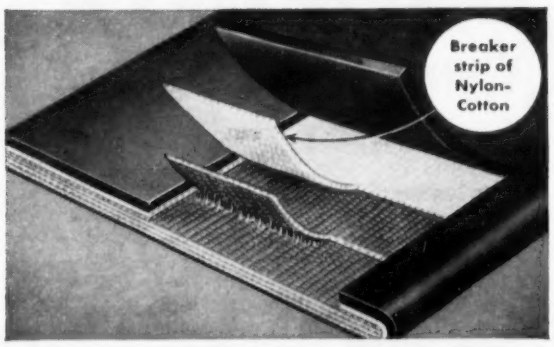
Our applications engineering group is responsible for the selection of the best possible combination of materials (glassed steel, stainless steel, Hastelloy, titanium, nickel, copper, etc.) to meet a given problem at the lowest cost.

Our project engineers can help you with process developments in the interest of getting good yields with a minimum of corrosion. Send for the 1956 "Buyer's Guide" which explains how these important services can mean real savings for you.

THE PFAUDLER CO.
Rochester 3, New York
SPECIALISTS IN CORROSIONEERING

For more details circle NED-261 E7 on enclosed inquiry slip

NYB&P's Nylon-Cotton Breaker Strip
absorbs impacts that ruin ordinary conveyor belts



Engineered to make use of the special characteristics of nylon and cotton, NYB&P's Nylon-Cotton Breaker Strip is a distinct improvement over "old-fashioned" all-cotton breaker strips because it provides a greater cushion against impact of heavy, jagged lumps...minimizes gouging and tearing of cover...increases adhesion between cover and carcass. You get it only in NYB&P conveyor belting!

NYB&P NEW YORK BELTING & PACKING CO.
1 MARKET STREET, PASSAIC, NEW JERSEY
AMERICA'S OLDEST MANUFACTURER OF INDUSTRIAL RUBBER PRODUCTS

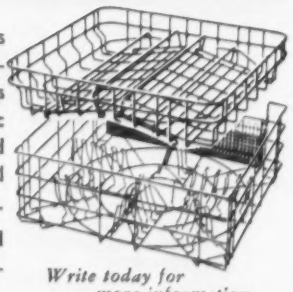
For more details circle NED-262 E7 on enclosed inquiry slip

Formed Wire Products

ALL SIZES, SHAPES AND WEIGHTS

FLAT OR ROUND WIRE TO ½" DIAMETER

Made to your specifications in production quantities. Resistance welded at all points of contact. Available in zinc plate with zinc chromate and lacquer or dipped polyvinyl to your color specifications.



Fast, efficient delivery geared with your production schedules.

Write today for more information.

Peerless FORMED WIRE PRODUCTS
PEERLESS WIRE GOODS COMPANY, INC.
2706 FERRY STREET · LAFAYETTE, INDIANA

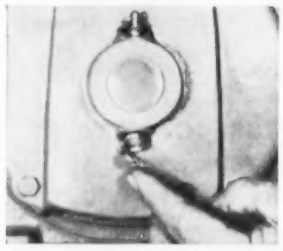
For more details circle NED-263 E7 on enclosed inquiry slip

SUBMINIATURE RELAY
solder-lug or plug-in terminals

Rotary action, double-pole double-throw, MV subminiature relay of crystal can size meets exacting military specifications. It operates in a temperature range up to 125° C with contact rating of 2 amp resistive at 28 v dc or 115 v ac. Vibration rating is 10 to 80 cps at maximum excursion of 0.06-in. and from 80 to 2000 cps at 20 G acceleration. It is slightly less than 1 in. long, ¾-in. wide and ¼-in. thick. Weight is 0.44-oz. Made by **Elgin National Watch Co.,** Electronics Div., Dept N, Elgin, Ill.

For more details circle NED-264 E7 on enclosed inquiry slip

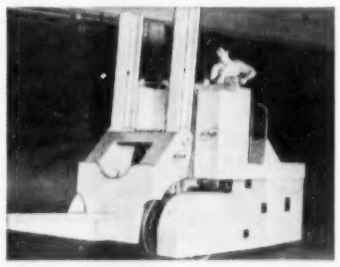
LUBRICATION FITTING
relief-type speeds lubrication



Relief-type (RT) lubrication fitting for use on antifriction bearings in motors, machinery or pillow blocks features flip-open cap that speeds bearing lubrication. Body is internally flared to allow free discharge of excess grease or flush lubrication. No tools are needed to open cap, which swivels to any position. Fittings reportedly can cut lubricating time 80 per cent or more. Made by **Keystone Lubricating Co.,** 3100 N. 21st St., Philadelphia 32, Pa.

For more details circle NED-265 E7 on enclosed inquiry slip

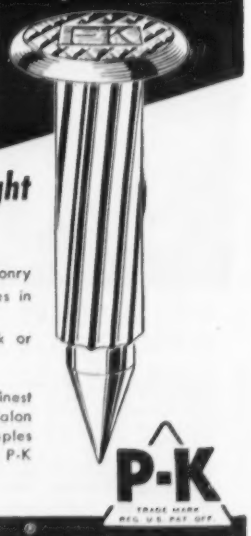
HEAVY DUTY RAM TRUCKS
capacities from 20,000-80,000 lb



Loads from 20,000 to 80,000 lb encountered in steel mills, warehouses and heavy metalworking plants can be handled by series of heavy duty ram trucks. Dual drive motors, power hydraulic wheel brakes and steering, narrow truck width and simplified maintenance are featured. Redesigned lift mechanism allows operator clear view of tip of ram. Sub-assemblies are attached directly to frame, so each can be removed independently. Motors are removable for servicing without disturbing reduction units. Made by **Elwell-Parker Electric Co.,** 4502 St. Clair Ave., Cleveland 3, O.

For more details circle NED-266 E7 on enclosed inquiry slip

P-K hardened Masonry Nails
do the work of plugs and expansion bolts . . . at a fraction of the cost!



Built to drive straight and stay tight

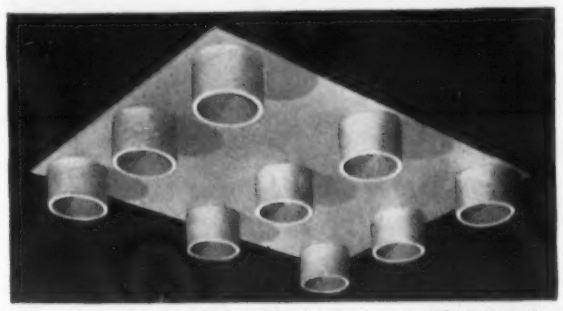
- No pilot holes needed in soft masonry
- Drive easily into pre-drilled holes in harder materials
- Won't loosen—even under shock or vibration

IF IT'S P-K . . . IT'S O.K. For the finest fasteners made, insist on Parker-Kalon . . . the name you can trust. Get samples from leading distributors who stock P-K Masonry Nails . . . or write:

P-K TRADE MARK REG. U.S. PAT. OFF.

PARKER-KALON® fasteners
Parker-Kalon Division • General American Transportation Corporation • Clifton, New Jersey

For more details circle NED-267 E7 on enclosed inquiry slip



Bottom view of Signode "Chuckaway" pallet showing patented tubular posts.

New... improved... expendable

Low Cost	Signode Chuckaway pallets are low in first cost; eliminate maintenance costs, save storage space.
Light weight	Cut shipping costs every mile, every load. Easy and clean to handle.
Strong	Rugged construction proved in use and in famous Signode testing laboratory.
Versatile	Standard or special sizes. Post placement variable. Tray or flat tops.
Expendable	No returns, so no shipping or record-keeping or storage costs on returns.

Competent Signode assistance on expendable pallet design and unitizing methods is available. For information and Signode Chuckaway pallet details, write:

SIGNODE STEEL STRAPPING CO.
Dept. SP, 2643 N. Western Avenue, Chicago 47, Illinois
Offices coast to coast.
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

For more details circle NED-268 E7 on enclosed inquiry slip

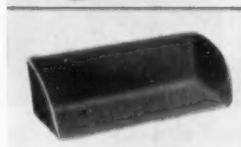
For longer lifting life...

STYLE A—These buckets are commonly used on elevators handling coal, grain, cement, chemicals, pulp and similar materials. Available in a range of sizes and capacities.

STYLE AA—Designed for longer life on same type of materials as Style A buckets. These buckets are recommended for especially heavy and gritty materials such as sand, gravel and stone.

STYLE AA-RB—Elevate same materials as Style AA. These are recommended for extra-heavy service conditions. Buckets feature double-thickness backs, wide digging lip and reinforced ribs.

STYLE B—Widely used for handling coke, ores, stone, and other coarse materials. Buckets offer proper shape and low front to insure clean discharge at relatively slow speed.



STYLE C—Recommended for handling clay, sugar, salt, wet grain, finely pulverized ores, and the like. Open front and low loading angle design prevent materials from sticking or packing in buckets.

CONTINUOUS—Designed for elevating coal, sand, gravel, crushed stone, and other dry materials. Provide high capacities at low speeds. Flanged front forms chute—assures clean, gentle discharge.

match your material and load requirements with the right LINK-BELT cast elevator bucket

Light or heavy . . . free-flowing or sticky . . . abrasive or corrosive . . . fine or lumpy—Link-Belt offers a type and size of cast elevator bucket designed to give you years of trouble-free, low-cost performance. Link-Belt buckets feature reinforced corners for added strength . . . smooth, seamless surfaces for quick, easy pickup and discharge. And they're available in malleable iron or longer-lasting Promal. For facts, see your Link-Belt office or authorized stock-carrying distributor. Ask for Booklet 2465.

LINK-BELT

CAST ELEVATOR BUCKETS

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants, Sales Offices, Stock Carrying Factory Branch Stores and Distributors in All Principal Cities. Export Office, New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville (Sydney), N.S.W.; South Africa, Springs. Representatives Throughout the World. 14.542

For more details circle NED-269 E7 on enclosed inquiry slip

CUTTING PADS

Made of tough, "self-healing" TYGON plastic, COLONIAL Cutting Pads —

1. Reduce die wear and breakage,
2. Lessen rejects from double cutting due to "bounce back",
3. Increase production through quiet, less fatiguing operation.

Long wearing, dustless, and usable on both sides, COLONIAL Cutting Pads are widely used in machine, or hand cutting of rubber, leather, plastics, cork, candy, paper, fibre, felt cloth, foils, or light gauge metals.

Colors are black and tan. Standard durometers are 87 to 97, others on special order. 8 standard sizes range from 20"x20" to 40"x40" in area, and from ¼" to 1" in thickness.

Write, today, for full information and prices! 203C-1

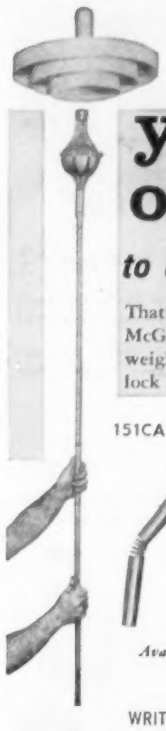
COLONIAL RUBBER CO.
RAVENNA, OHIO

For more details circle NED-270 E7 on enclosed inquiry slip

ENGINE SHUT-OFF PANELS
shut off unattended, remote engines

Oil pressure dropping to a dangerously low level or engine water temperature rising above a safe maximum causes this expandable safety panel to automatically shut off unattended or remotely controlled engines. Applications include air compressors, generator sets oil rigs, fork-lift trucks and refrigeration machines. Panels are available for battery and magneto type ignitions, as well as for diesel engines. They include precut holes for insertion of a Stewart-Warner tachometer, Hobbs hour meter or other gages or instruments. Unit is factory-set to shut off the engine at 5 lb oil pressure, 25-lb water pressure and 205° F temperature, but all can be adjusted to suit a particular need. Equipment can be used on 6, 12, 24 or 32 v circuits. Made by **Stewart-Warner Corp.**, Dept. NED, 1826 Diversey Pkwy., Chicago 14, Ill.

For more details circle NED-272 E7 on enclosed inquiry slip



keep your feet on the floor
to change bulbs in safety

That's exactly how you change bulbs with McGills Adaptable Lamp Changer, for a light weight insulated steel pole in 5' sections that lock securely in place enables you to change bulbs easily up to .20' above the floor. There are 9 different heads available to handle your present bulbs. Why not eliminate the danger of unsafe ladders and save maintenance time and money? You can with a McGill Lamp Changer.

Available from Electrical Wholesalers

WRITE TODAY FOR CATALOG No. 84

YOU CAN DEPEND ON McGILL QUALITY

McGILL MANUFACTURING CO., INC. 151 N. Campbell St. Valparaiso, Indiana

For more details circle NED-275 E7 on enclosed inquiry slip

16-MM MOTION PICTURE CAMERA
available in single-lens and two and three-lens turret styles

Single-lens as well as two and three-lens turret versions are available in series 240 spool-loading 16-mm motion picture cameras. All models have automatic film-threading mechanism; constant-speed winding motor with 32-ft spring run; 100-ft film capacity; single-frame; continuous - run lock; and a range of camera speeds including 8, 16, 24, 32 and 48 frames per second.

Single-lens 240A has 20-mm Sunomatic lens in either f/2.5 universal-focus or f/1.9 focusing-mount versions. Lens mount on the 240A and 240T (two-lens) turret models will accept any standard C-mount lens interchangeably. The two-lens turret has the Sunomatic lens and another mount for any C-mount lens of owner's choice. Side-located control panel has camera speed dial, motor wind indicator and dial indicating amount of remaining film.

The 240TA with three-lens turret and three-objective viewfinder can be purchased with choice of C-mount lenses and matching viewfinder objectives. Prices range from $179.95 to $259.95. Made by **Bell & Howell Co.**, 7100 McCormick Rd., Chicago 45, Ill.

For more details circle NED-273 E7 on enclosed inquiry slip

CARBON-GRAPHITE
Materials and Parts...

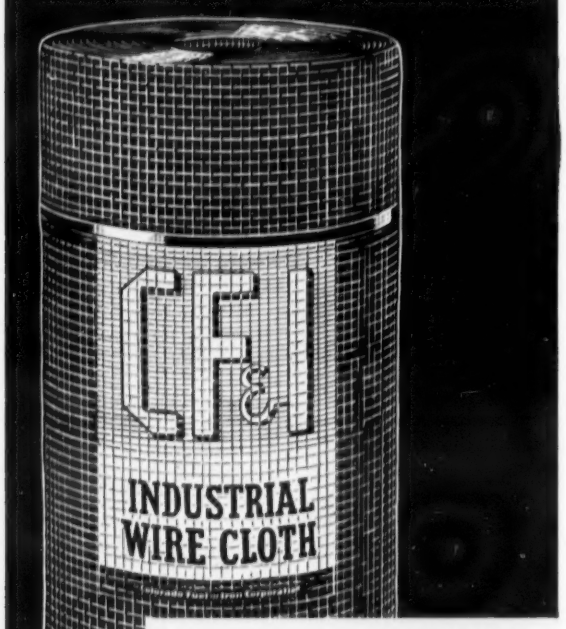
- ☐ ANODES
- ☐ BEARINGS
- ☐ BRAZING FURNACE BOATS
- ☐ BRUSHES for all rotating electrical equipment
- ☐ CLUTCH RINGS
- ☐ CONTACTS, Electrical
- ☐ CONTINUOUS CASTING DIES
- ☐ DASH POT PLUNGERS
- ☐ ELECTRIC FURNACE HEATING ELEMENTS
- ☐ FRICTION SEGMENTS
- ☐ GROUND ANODES for Corrosion prevention
- ☐ MOLDS and DIES
- ☐ POROUS CARBON
- ☐ PUMP VANES
- ☐ PURIFIED GRAPHITE
- ☐ RAIL BONDING MOLDS
- ☐ RESISTANCE WELDING and BRAZING TIPS
- ☐ SALT BATH RECTIFICATION RODS
- ☐ SEAL RINGS
- ☐ TROLLEY and PANTAGRAPH SHOES
- ☐ WATER HEATING and PASTEURIZATION ELECTRODES
- ☐ WELDING RODS, PLATES and PASTE
- ☐ VOLTAGE REGULATOR DISCS (Carbon Piles)

STACKPOLE

STACKPOLE CARBON COMPANY, *St. Marys, Pa.*

For more details circle NED-276 E7 on enclosed inquiry slip

for SCREENING • FILTERING
FABRICATING • GRADING
CLEANING • PROCESSING



If you use industrial wire cloth, CF&I can fill your needs. For CF&I is equipped to make this product in any metal, mesh or weave. Popular types are stocked in large quantities by CF&I . . . or—if yours is an unusual application—your industrial wire cloth can be quickly produced to *your exact* specifications.

HERE'S IMPORTANT DATA ON INDUSTRIAL WIRE CLOTH!

CF&I offers you a new, free, information-packed book on industrial wire cloth. It gives you necessary information on mesh and wire sizes . . . metals and coatings . . . descriptions of special cloths . . . wire gauge conversion tables . . . U. S. Standard Test Sieve specifications . . . complete ordering information.

To get your copy of this invaluable catalog on industrial wire cloth, just contact the nearest CF&I sales representative listed below.

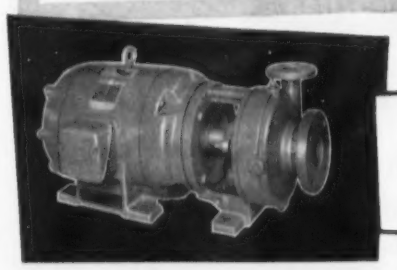
THE COLORADO FUEL AND IRON CORPORATION—Albuquerque • Amarillo • Billings Boise • Butte • Casper • Denver • El Paso • Ft. Worth • Houston • Lincoln (Neb.) • Los Angeles • Oakland • Oklahoma City • Phoenix • Portland • Pueblo • Salt Lake City San Antonio • San Francisco • Seattle • Spokane • Wichita

WICKWIRE SPENCER STEEL DIVISION—Atlanta • Boston • Buffalo • Chicago • Detroit New Orleans • New York • Philadelphia

CF&I OFFICES IN CANADA: Montreal • Toronto 4459
CANADIAN REPRESENTATIVES AT: Edmonton • Vancouver • Winnipeg

For more details circle NED-271 E7 on enclosed inquiry slip

Save space · Save cost
with this advanced new line of quality-built, close coupled
GENERAL SERVICE PUMPS



Foot Mounted Motor Frame shown. Also available with Round Motor Frame.

DEAN BROTHERS TYPE "GSC" STANDARD CLOSE COUPLED CENTRIFUGAL PUMPS

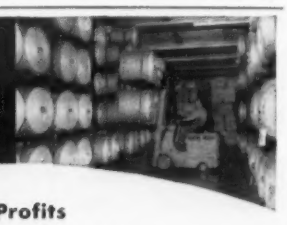
- 7 SIZES—up to 600 gal. per min. • TOTAL DYNAMIC HEAD—up to 275 ft.
- TEMPERATURE OF LIQUID—from minus 40°F to plus 250°F.
- Available from stock in ALL IRON, BRONZE FITTED or ALL BRONZE Construction.
- Enclosed Francis Vane Impeller for high efficiency and low NPSH requirements.
- Packing and Mechanical Seal are interchangeable without modification of pump.
- Removable back head construction permits removal of impeller without disturbing suction or discharge piping.

SEND FOR DESCRIPTIVE CIRCULAR NO. 191 A

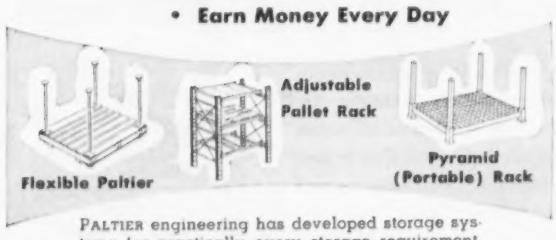
DEAN BROTHERS PUMPS INC.
EST. 1869
323 West 10th St., Indianapolis 7, Ind.

For more details circle NED-274 E7 on enclosed inquiry slip

PALTIER SYSTEMS *are Best...*



- Increase Your Profits
- Provide Maximum Safety
- Earn Money Every Day



PALTIER engineering has developed storage systems for practically every storage requirement, proving that PALTIER's experience has no peer.

There is a PALTIER SYSTEM designed especially for your plant.

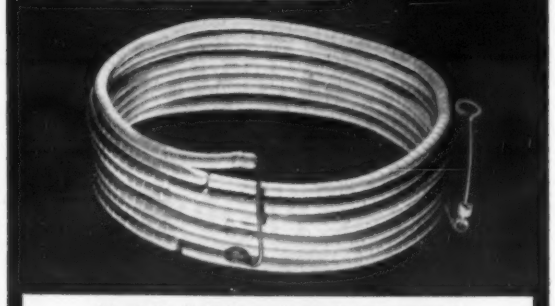
Let PALTIER Engineers Show You How to Save with Safety.

Write for Complete Descriptive Literature.

THE PALTIER CORP.
Designers, Engineers and Manufacturers of Engineered Storage Systems
1705 Kentucky Street • Michigan City, Indiana
DISTRIBUTORS IN PRINCIPAL CITIES

For more details circle NED-277 E7 on enclosed inquiry slip

ARCOS WELDING FACTS



Heat-O-Coil Speeds Preheating and Stress Relieving of Pipe Welds

The Heat-O-Coil is a length of resistance wire covered with ceramic beads. Easy to handle—just wrap it around a pipe joint; connect its two ring ends to your welding generator; set current to produce required heat.

Use on any size pipe. Saves time and additional equipment for field use. Also useful where other means of heat treating cannot be used. Priced as low as $10.25 per coil.

SEND FOR FREE BULLETIN

. . . Gives all details, illustrated directions, Heat-O-Coil sizes and prices.

Arcos Corporation, 1500 S. 50th St., Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

For more details circle NED-278 E7 on enclosed inquiry slip

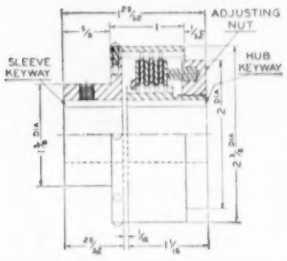
SMALL PARTS BINS
for use on workbench tops

Small parts stored in bins for use on workbench tops are instantly accessible, yet the bench surface is available for production and assembly operations. Bin boxes hang from rails and are easily rearranged for changing requirements. Five sizes measure 6 in. front to back, 2¾ in. deep and from 1¾ to 11⅛ in. wide. Made by **Bathey Mfg. Co.**, 161 S. Mill St., Plymouth, Mich.

For more details circle NED-281 E7 on enclosed inquiry slip

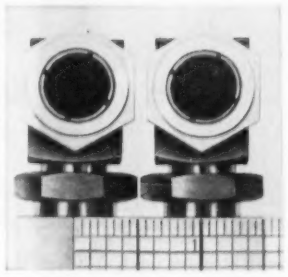
SLIP COUPLING
direct-connects two shaft ends

Metallic friction plates are feature of the L2 slip coupling, a light duty unit for direct-connecting two shaft ends. It is available with ½, ⅝ and ¾-in. bores in either member. Type 323 with disk spring assembly has an adjustable torque range up to 9 lb-ft maximum. More sensitive type 323A has coil springs to provide friction plate pressure. for any torque from 0 to 7.3 lb-ft. Applications include overload protection between small motors and reducers, conveyors, feeding mechanisms, packaging equipment, etc. Made by **Hilliard Corp.**, 40 W. Fourth St., Elmira, N. Y.



For more details circle NED-282 E7 on enclosed inquiry slip

HYDRAULIC LINE FITTING
achieves tight metal-to-metal seal



These hydraulic line fittings assure positive, leak-proof seal through metal-to-metal contact. Where several hydraulic lines must be concentrated as in control panels, valves and special machinery, fittings can be set side-by-side on subpanels. Two ¼-in. fittings can have 1 in. or less center-to-center spacing, using straights, ells and tees. Body of fitting remains stationary due to captive nut which floats on smooth stem above its threads. When nut is tightened, fitting is forced against machined step, actually coining its own seat. Seal is available in self-flaring, no-flare and flare types in ¼ to 2 in. OD, made by **Flodar Corp.**, Dept. ND, 16911 St. Clair Ave., Cleveland 10, O.

For more details circle NED-283 E7 on enclosed inquiry slip

YOU CAN GET 43 STOCK SIZES 1/8" to 3"

HALLOWELL

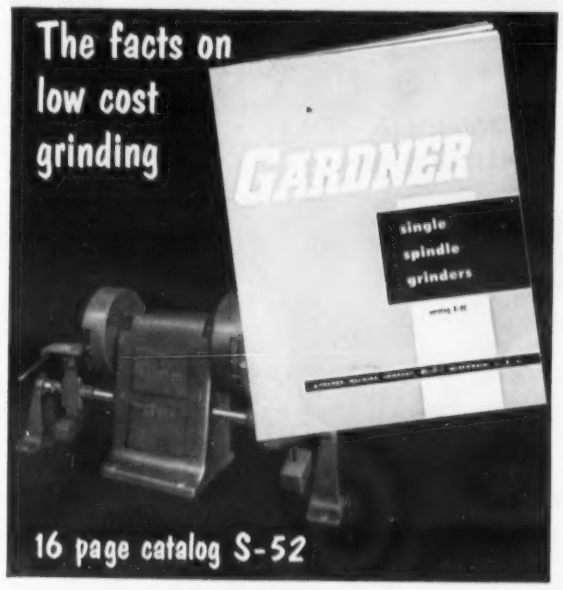
SOLID STEEL COLLARS from your industrial distributor

All of these precision-machined solid steel collars are size-marked for quick identification, and fitted with the famous self-locking UNBRAKO Socket Set Screw for positive positioning on the shaft. Write for Bulletin 868. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
HALLOWELL POWER TRANSMISSION DIVISION SPS
JENKINTOWN PENNSYLVANIA

For more details circle NED-279 E7 on enclosed inquiry slip

The facts on low cost grinding



16 page catalog S-52

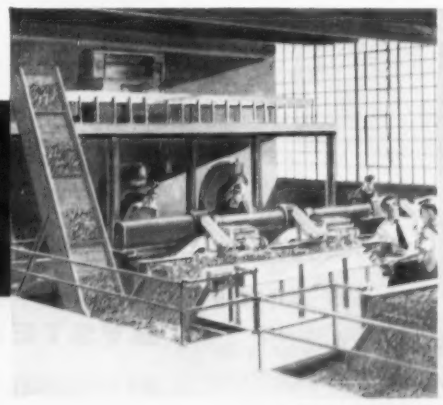
Shows how to grind flat surfaces at reduced cost with standard single spindle grinders. Hand operated models for short runs. Tooling available for higher production.

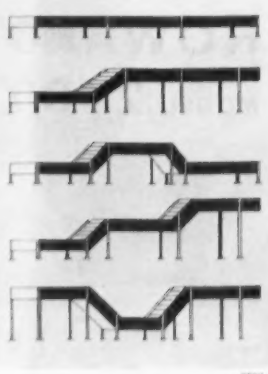
GARDNER MACHINE COMPANY
416 Gardner St., Beloit, Wisconsin

136Mm

For more details circle NED-284 E7 on enclosed inquiry slip

MAY-FRAN
CONVEYOR STANDARDIZATION





7322-MF

SAVES YOU MONEY...
NOW...
AND IN THE FUTURE!

Here is a conveyor program designed for the unusual. NOW . . . you can have a customized conveyor today to meet production needs . . . and with modification, that same conveyor will meet the needs of tomorrow.

The May-Fran conveyor standardization program provides the standard components that can be assembled to form a special or standard conveyor. These same components can be re-arranged at any time to solve production problems in the future.

In addition, standard components mass produced mean conveyor economy right from the beginning.

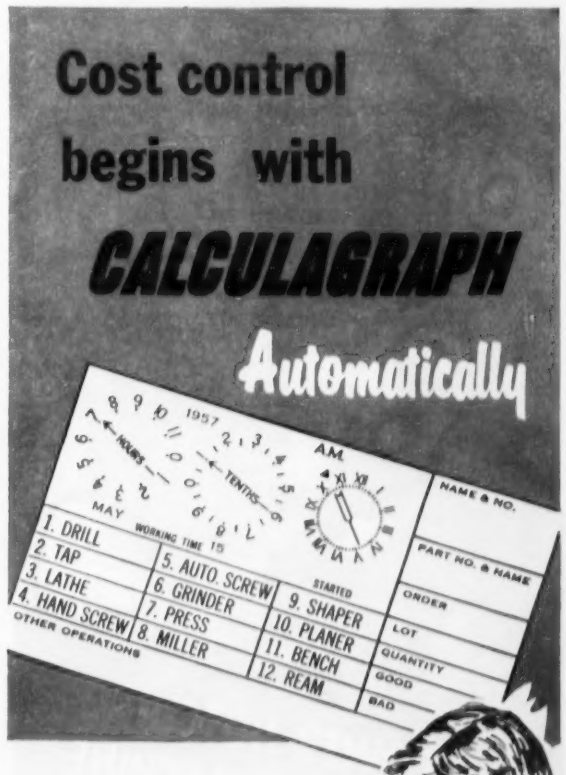
Here is a conveyor program of standardization program that saves you money now . . . and in the future!

Write today for your copy of Bulletin MF-200

MAY-FRAN ENGINEERING, INC.
1711 Clarkstone Rd., Cleveland 12, Ohio

For more details circle NED-280 E7 on enclosed inquiry slip

Cost control begins with CALCULAGRAPH Automatically



No need to "just wish" you had accurate job cost records because with Calculagraph system you obtain these records automatically.

Calculagraph not only prints and records working time per worker per job but computes the *elapsed time* for every job card being recorded. That means, of course, that your costs are computed automatically. Also many workers may use the same Calculagraph computer.

Know the facts about your costs—do it with a Calculagraph system. Our representative can show you how.

Literature describing Calculagraph is yours for the asking. Just write to Dept. NE

Representatives in Principal Cities

CALCULAGRAPH Company
HARRISON, N. J.

DEPENDABLE ELAPSED TIME COMPUTERS SINCE 1892

For more details circle NED-285 E7 on enclosed inquiry slip

Mecco SAFETY "WEDGE-GRIP"

STEEL TYPE HOLDER

Fast TYPE CHANGE FEATURE

Ideal for use on marking jobs requiring interchangeable type, this unit features a patented Safety Snap for speed and ease in changing type. Made to order in any size, it is made of Mecco Safety Steel to prevent spalling and mushrooming.

Write for Data Sheet 514

A PRODUCT OF THE MARKING DEVICE INDUSTRY

Mecco SAFETY MARKING TOOLS **M.E.CUNNINGHAM CO.**

1055 CHATEAU STREET, PITTSBURGH 33, PA.

For more details circle NED-286 E7 on enclosed inquiry slip

NEW! FAST-ACTING! DOES A MULTITUDE OF JOBS!

DUPLEX SETUPS, TOO!
Available also is a two-machine arrangement (for edge or corner trimming) with a single foot valve (for simultaneous operation of both machines), a floor stand and feed table.

Air powered for speed and operating ease, this versatile, all-new machine is a production-booster from the word "Go". With a 6½-ton capacity and a 4¼-inch throat, it is available with notching or punching attachments or both.

A foot valve controls the action to free both hands for handling the material. The ram can be lowered gradually to locate work at prick-punched points and to facilitate die changing. Adjustable to an infinite variety of positions, a uniquely-designed gage also steps up productivity. An unusually large selection of punches and dies is available for simple or intricate holes, corner trimming, combination trimming and cutoff. Featuring rugged, compact, all-steel construction, Niagara's No. 65-5 Notching and Punching Machine can be furnished for bench mounting or with a floor stand. Shop air pressure of 80 psi is all that's needed for A-1 performance. LEARN MORE about this multi-purpose machine and what it can do by writing for new, illustrated Bulletin 79 today.

NIAGARA

America's Most Complete Line of Presses, Shears, Press Brakes, Other Machines and Tools for Plate and Sheet Metal Work

NIAGARA MACHINE & TOOL WORKS, BUFFALO 11, N. Y.

DISTRICT OFFICES:
Buffalo • Cleveland • Detroit • Indianapolis • New York • Philadelphia

Distributors in principal U. S. cities and major foreign countries

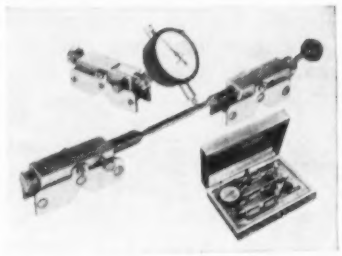
For more details circle NED-287 E7 on enclosed inquiry slip

PORTABLE GANTRY
height adjustable to over 14 ft

Two men can easily erect the Magic-Pole floating gantry anywhere—over high obstructions, or where headroom is low. Legs have 6-ft height adjustment, permitting extension to over 14 ft. Aluminum alloy I-beam is 10 ft long and weighs only 65 lb. Each end support is a complete tripod which can be quickly removed from the I-beam and used as a conventional tripod. Made by **B. E. Wallace Products Co.**, Exton 19, Pa.

For more details circle NED-288 E7 on enclosed inquiry slip

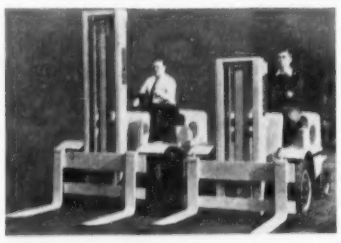
CONCENTRICITY GAGE
magnets hold it on machine tools



Suited for use in many locations and positions because it is attached magnetically, this concentricity gage can be used on drill presses, boring tools and lathes and in toolroom, inspection and production operations. The exact lateral adjustment mechanism for the indicator is mounted in a permanently magnetized holder. Aluminum guide blocks are set in a magnetized satin chrome base. Offered in a padded wooden box, the gage sells for $97.50. Made by **Clark Engineering & Mfg. Co.**, Dept. N-1, 1820 Layard Ave., Racine, Wis.

For more details circle NED-289 E7 on enclosed inquiry slip

LOW SILHOUETTE TRUCK MASTS
have up to 144-in. lifts

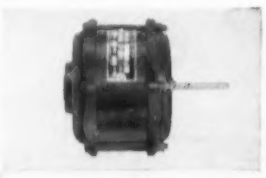


Multi - Lift mast available on all Truck-Man high lift fork trucks provides a low truck silhouette while maintaining a high lift. Mast having 144-in. lift has lowered height of 72 in., while mast with 120-in. lift is only 62 in. high. Top of the 144-in. lift mast is below eye level of driver when lowered, while for the 120-in. lift, mast top is actually lower than truck steering wheel. Visibility is further improved by wide spacing of the rails when mast is raised. Design is based on a plan which compounds the lifting power. Forks travel 3 in. for each 2-in. increase in mast height. Made by **Knickerbocker Co.**, Truck-Man Div., 627 Liberty St., Jackson, Mich.

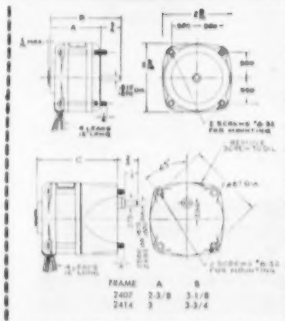
For more details circle NED-290 E7 on enclosed inquiry slip

For Servo Applications

HOWARD MODEL 2400



CAPACITOR OR 2 PHASE TYPE SERVO MOTOR



This four pole motor is designed for servo applications. Low inertia rotor provides quick response and high impedance stator windings can be matched to vacuum tube plate circuits. Center topped windings can be provided. As a 2 phase motor, the speed can be varied by varying the phase angle. Responds to a wide range of frequencies. Gear units are available with ratios from 2½:1 to 3600:1. For complete data, write today.

HOWARD INDUSTRIES, INC.
1740 State St.
Racine, Wisconsin

Divisions: Electric Motor Corp.
Cyclohm Motor Corp.
Racine Electric Products

For more details circle NED-291 E7 on enclosed inquiry slip

SERVING INDUSTRY FOR 76 YEARS

Send Specifications for an estimate. Dept. 11

THE C.O. JELLIFF MANUFACTURING CORP.
Southport • Connecticut • USA

For more details circle NED-292 E7 on enclosed inquiry slip

from Drafting Room to Assembly Line,

Cramer

HI-MODEL CHAIRS SPUR PRODUCTION
through *proper seating*

MODEL 6F-3

Workers who sit comfortably alert show better production records than those who are constantly fighting fatigue. This proved fact explains why Cramer chairs are so widely used; they PAY OFF in increased production. Scientifically-designed Cramer chairs provide easy, correct posture support for every seated worker; they are quickly adjustable to individual needs and are engineered to such rigid quality requirements that replacement problems become a thing of the past.

MODEL 4D-22-T

Pictured, fixed-ring factory chair and tilt-seat draftsman's chair with adjustable footring; many other models available.

Investigate! **CRAMER POSTURE CHAIR CO., INC.**
Dept. NE-57 1205 Charlotte, Kansas City 6, Mo.

For more details circle NED-293 E7 on enclosed inquiry slip

a proven HIGH-VACUUM SYSTEM at reasonable cost

CEC Model LC1-14A.

Generally speaking, doing-it-yourself saves neither money nor quality when you want a laboratory vacuum system.

The CEC unit shown here, for example, costs only $2,965.00. It's a *complete, expertly assembled, tested* unit.

Besides high-vacuum and mechanical pumps, you get the proper gauges, valves, and other equipment to make operation easy and sure.

The system reaches 0.5 micron in 6 minutes or less. Ultimate pressure -1×10^{-5}mm Hg.

Write for literature on this and other CEC packaged high-vacuum systems for lab and pilot plant use.

Consolidated Electrodynamics
Rochester Division, Rochester 3, N.Y.
formerly Consolidated Vacuum

OFFICES IN PRINCIPAL CITIES THROUGHOUT THE WORLD

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RUEMELIN BLAST GENERATORS

A practical low-cost sand blast used by plant engineers for maintenance work. Cleans rust, paint, scale from piping, valves, fittings, renovating buildings, stripping paint from trucks, busses, trailers, railroad cars, structural steel, storage tanks, ship hulls, etc. Can be fitted with Wet Adapting Nozzle for eliminating dust.

Write for Bulletin 36-C

RUEMELIN MFG. CO.
3883 N. Palmer St.
Milwaukee 12, Wis.

Manufacturers and Engineers
SAND BLAST AND DUST COLLECTING EQUIPMENT, WELDING FUME COLLECTORS.

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Money Saving Ideas!

This brand-new, 32-page illustrated booklet is yours for the asking. Shows many ways to use Denison's versatile 1-ton hydraulic Multipress®. . . for performing 101 operations better, faster, at less cost. Use the reader service card, or write:

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DENISON ENGINEERING DIVISION
American Brake Shoe Co.
1192 Dublin Road, Columbus 16, Ohio

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RIGID VINYL EXTRUSIONS

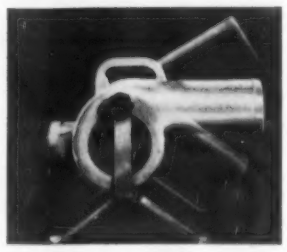
Rigid vinyl extruded profiles offer excellent physical and electrical properties, plus outstanding corrosion-resistance and weatherability. As electrical insulators, bus duct covers, interior and exterior architectural trim, slides, window track, or as varied structural units, Vin-Con rigid vinyls offer material and cost advantages. Dies are inexpensive, the end product often less costly than metal.

Write for full information and technical data.
Dept. NED 557

CONNEAUT RUBBER and PLASTICS CO.
CONNEAUT, OHIO 1579A

For more details circle NED-297 E7 on enclosed inquiry slip

AIR BLOWER
has 2400 fpm air output



This Jet Blower will deliver continuous or intermittent blasts of air at an output of 2400 fpm. Three-way heat control permits hot, cool and warm air deliveries. Both the 11-lb stand-swivel and the 10-lb hanging model have a ball-bearing brushless type self-cooling motor, a heavy-duty heating element and cast aluminum body designed for quick disassembly. Moving parts are protected by enameled steel screening. Blower operates on 115 v 60 cycles and sells for $59.50. Made by **Ullman Products Corp.**, Dept. NE, 15 River St., Norwalk, Conn.

For more details circle NED-298 E7 on enclosed inquiry slip

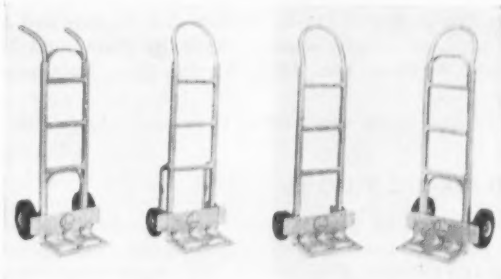
ILLUMINATED PUSHBUTTON
6-v oiltight unit in six colors

Functions of both a pushbutton and an indicating light are combined in the CR2940UW illuminated oiltight pushbutton in either guarded or unguarded form. Savings of up to 50 per cent in panel space are possible. Transformers are rated for 110, 220 or 440 v, 60 cycles, and provide completely insulated secondary windings. The strongbox transformer is the same size as heavy-duty oiltight contact block. The No. 12 pilot 6-v bulb resists vibration and shock. Red, green, amber, white, blue and clear caps are available. Made by **General Electric Co.**, 1 River Rd., Schenectady 5, N. Y.

For more details circle NED-299 E7 on enclosed inquiry slip

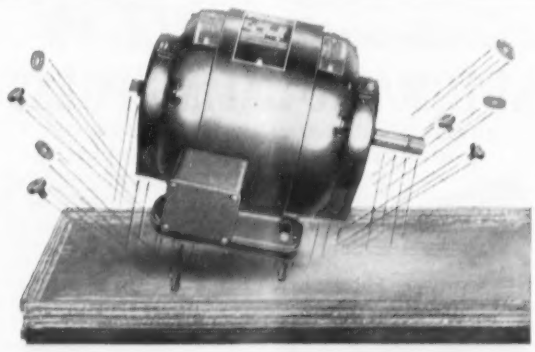
MAGNESIUM TRUCKS
weigh 16 lb, carry up to 450 lb

First units of a new line of magnesium hand trucks are known as Weight Savers. Trucks weigh as little as 16 lb and will carry loads up to 450 lbs. They are



rustproof and breakproof and roll easily on 6 or 8-in. ball bearing wheels equipped with semipneumatic balloon tires. The four models illustrated are now offered by **Colson Corp.**, 3704 Cedar St., Elyria, O.

For more details circle NED-300 E7 on enclosed inquiry slip



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NODULAR GRAPHITE CONSTRUCTION
protects exposed motors

- Nodular graphite iron end shell and frame construction cushion Peerless motors from shock and impact. They are particularly recommended for applications where they are exposed to moving vehicles, crane hooks, falling rock, steel or debris. They have all the advantages of cast steel at lower cost. Peerless engineers will work with you to produce the one motor that powers your product best.

ELECTRIC MOTOR DIVISION
THE Peerless-Electric COMPANY
FANS · BLOWERS · MOTORS · ELECTRONIC EQUIPMENT
1506 W. MARKET ST. • WARREN, OHIO

For more details circle NED-301 E7 on enclosed inquiry slip

SINTZ Threaded Rod Steel and Non Ferrous

Has Thousands of Industrial Uses

SINTZ *crt high quality-low cost threaded rod has a 1000 and 1 uses! . . . With SINTZ rods you can make quick repairs economically and reduce down-time to a minimum. Try SINTZ once and you'll be convinced.**

*Cold Rolled Threaded—Bends Cold

ORDER FROM YOUR MILL SUPPLY HOUSE—INDUSTRIAL JOBBER OR DIRECT FROM . . .

CLAUDE SINTZ INC.
1928 STANLEY AVENUE
DETROIT 8, MICHIGAN

SINTZ threaded steel and non ferrous rod

STUDS • PIPE PLUGS
FORMED RODS

For more details circle NED-302 E7 on enclosed inquiry slip

ALEMITE Announces the all-new SURGEPRUF LINES OF REUSABLE COUPLINGS AND RUBBER HOSE

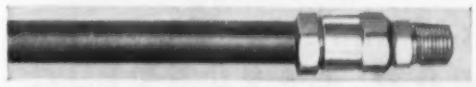
. . . Available Now Nationwide!

It's brand-new from Alemite! For the first time, this famous manufacturer offers you *reusable, non-skive* couplings and rubber hose—exclusively designed for faster, more economical replacements . . . to cut maintenance costs, downtime and inventories!

Rugged Alemite Hose is available for either medium-high or high-pressure service, with single or double wire braid. Couplings of high-strength steel have J.I.C. thread design for positive, long-lasting seal.

Only Alemite Surgepruf Couplings Offer All These Advantages:

- NO HOSE-SKIVING REQUIRED! "Double-wedge" grip forces coupling threads through rubber cover . . . grips either single or double wire braid solidly. Saves both time and labor.
- GIVES TIGHTER GRIP! Double-wedging action gives tighter grip as insert is drawn farther into coupling.
- NO SPECIAL ASSEMBLY TOOLS REQUIRED! Fast, easy assembly with just ordinary tools.
- Types and sizes for all hydraulic lines!



Standardize—save money—with new, factory-tested and field-proved Alemite Surgepruf Couplings and Hose!

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Division of STEWART-WARNER CORPORATION

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Please send me my free copy of the complete Surgepruf Catalog.
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Company .....
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For more details circle NED-303E7 on enclosed inquiry slip

KESTER SOLDERING FLUXES can be had in 160 different formulae, all widely proved by actual industrial use. Whatever your needs, we can supply a Flux that will give the exact results required. Kester Fluxes are available in the usual containers from 5 gallons to a pint.

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KESTER SOLDER COMPANY

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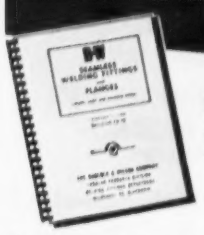
FOR ENGINEERS WHO SPECIFY
WELDING FITTINGS AND FLANGES



B&W Welding Fittings Catalog
FB-76 *CONDENSED*

Here's an extremely helpful catalog that contains 165 pages of physical data on the complete range of grades, types, sizes and pipe schedules of all B&W Welding Fittings and Flanges.

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TYGON GASKETING

For really rugged service such as handling "hot" chemicals or abrasive slurries, Tygon Plastic is the ideal gasket material. It is strong, flexible and resilient, and is highly resistant to acids, alkalis, wear, and abrasion. Available in sheets, tubes or solid cord for making your own, or we can provide specially molded gaskets and seals made to your specifications.

Plastics and Synthetics Division

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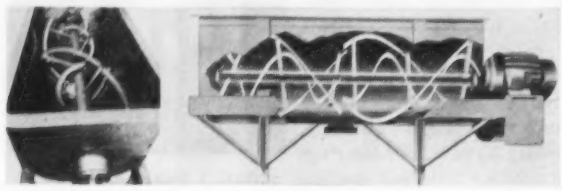
U. S. STONEWARE
AKRON 9, OHIO 215-E

For more details circle NED-305 E7 on enclosed inquiry slip

LIQUIDS & SOLIDS BLENDERS
capacities to 200 cu ft in 18 sizes

Continuous or batch blending of pulverized solids, solids and liquids, or liquids alone can be performed in series of Tri-Rib blenders. Capacities range



from 6 to 200 cu ft. They have two sets of three-ribbon helices mounted on a single horizontal shaft for easy removal for cleaning or replacement. Rounded internal corners and smooth, seamless internal surfaces are incorporated. Outboard anti-friction bearings support all weight. Stocked parts for seven sizes expedite their delivery. Available from **Bridges Engineering Co.,** Dept. NED, Box 223, Morristown, N. J.

For more details circle NED-306 E7 on enclosed inquiry slip

TRAVELING BUFFING HEAD
features variable forward stroke

Traveling with the work, the model 50-108 buffing head provides more buffing time on areas that are difficult to reach. It is usable on straight-line conveyors and certain continuous rotary automatic applications. As work approaches the wheel, an air cylinder actuates a forward stroke that is variable up to 5 in. Travel speed can be synchronized with conveyor speed. Horizontal and vertical adjustments are provided. Head can be rotated 360 degrees around the column. It can be used with buffs, set-up wheels, abrasive belts and wire or tampico brushes. V-belt drive for 3, 5 and 7½-hp motors can be supplied for any popular spindle speed. Made by **Hammond Machinery Builders, Inc.,** 1623 Douglas Ave., Kalamazoo, Mich.

For more details circle NED-307 E7 on enclosed inquiry slip

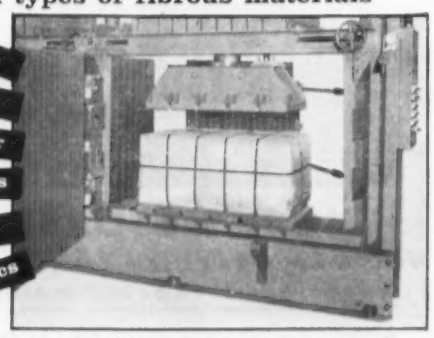
CORRECTION

In presenting the description of the Beckman ball and disk integrators for computing and control systems (*NED*-425 *March* '57), the word "maximum" was inadvertently left out of the application data. This device has a maximum recommended speed of 1000 rpm. Made by Helipot Corp., Dept. NED, Newport Beach, Calif.

For more details circle NED-308 E7 on enclosed inquiry slip

Continental's **NEW**
AUTOMATIC BALING PRESS
for high density compression of all types of fibrous materials

wool
scrap
leather
findings
paper
synthetics



Designed for efficient, speedy and automatic packing in cartons or bagging. Weight of bales automatically controlled; push-button operation; ample clearance for inserting and strapping, easy removal of bale; massive design assures minimum down-time for repairs.

Get complete details — see your nearest Continental Office.
CG-5720-A

INDUSTRIAL DIVISION
CONTINENTAL GIN COMPANY
BIRMINGHAM, ALABAMA
ATLANTA CLEVELAND DALLAS KNOXVILLE MEMPHIS MOBILE NEW YORK 17

For more details circle NED-309 E7 on enclosed inquiry slip

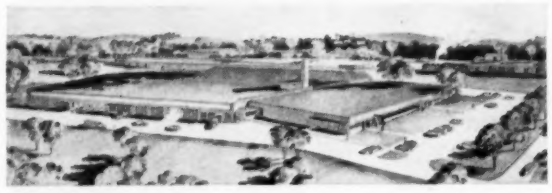
suspension type FLEXIBLE SHAFT MACHINE
eliminates tooling problem for I. B. M.

International Business Machines Corporation had the problem of reaming holes .813" in diameter in the mounting hanger on the main base of their 407 Accounting Machine. To eliminate expensive tooling for this operation, they selected a STOW V50 portable flexible shaft machine, which was specially fitted with an on-off switch mounted on the handpiece.

The V50 machine delivers 1150, 2100, 3450 or 5750 RPM, is furnished with a 6-foot flexible shaft. Other speeds can be achieved by using different size pulleys. (I. B. M. ran the reamer at 750 RPM.) Available in either ¾, 1, 1½ or 3 HP, the V50 can be used for grinding, buffing, sanding, wire brushing and drilling. **Stow Manufacturing Co.** 26 Shear Street • Binghamton, New York. *Advt.*

For more details circle NED-310 E7 on enclosed inquiry slip

HOW XEROGRAPHY
cuts duplicating costs and speeds paperwork for
SIDLES COMPANY, OMAHA, NEBRASKA



Saves $2,500 a year on plates alone. Saves 75% of time formerly used in copying operations . . . Paperwork that took 2 days now takes 10 minutes, using xerography!

HARRY B. SIDLES, President

Sidles Company, with 250 employees in its Omaha plant and 250 in 33 branches in Nebraska, Iowa and Kansas, maintains a perpetual inventory of 100,000 different items, including automotive parts, appliances and air conditioning components. In addition to the company's branches, it does business with 10,000 dealers. Harry B. Sidles, President, is enthusiastic about the ways in which xerography has speeded paperwork and reduced duplicating costs.

500 Copies Each of 27 Pages in 4 Hours: "A typical example of how valuable xerography is to us can be pointed up by the matter of the excise tax on tires. Naturally, if this information is not distributed immediately to the field—neither the salesman, nor the branches can properly quote to a customer. When a change occurs—and we have had them as late as 2:30 in the afternoon—we make our revised 27 page lists—have them ready by 5:00 P.M.—and, using masters prepared by xerography, have multiple copies in the mail by 6:00 P.M.!"

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BRANCH OFFICES IN PRINCIPAL U. S. CITIES AND IN TORONTO

HALOID XEROX

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396 PAGES PACKED WITH BARGAINS

ALL NEW 1957 CATALOG.. GREATER THAN EVER BEFORE FULLY ILLUSTRATED

THOUSANDS UPON THOUSANDS OF INDUSTRIAL, COMMERCIAL AND CONSUMER ITEMS AT GREATER SAVINGS THAN EVER BEFORE! New Merchandise! Top Quality GOV'T SURPLUS!

HYDRAULIC Cylinders, Pumps, Motors, Fittings, Tubing, Gauges, Instruments and Complete Assemblies of every description. A tremendous selection of Gov't Surplus as well as our own Custom Made line. And just wait until you see these prices!

TOOLS – SUPPLIES – EQUIPMENT in Electrical, Mechanical and Building lines. Aircraft Parts and Supplies. Electric Motors, Generators and Portable Power Plants. Pumps of all types. Tons and tons of Hardware. Fans, Blowers, Ventilators, etc.

WATCH THIS AD FOR ANNOUNCEMENT OF THE PUBLICATION DATE!

SAVE! SPECIAL GOV'T SURPLUS

2500 lb. WINCH HOIST

Ideal for use in garage, shop, boat yard, farm, on trucks, etc. Has bronze, worm gear drive with 24 to 1 gear ratio and 3-speed crank. Comes with 18 ft., 3/16", high tensile, steel cable.

WINCH HOIST – Same as above but has free-spool, pull-out clutch. ..... 29.95 / 32.50

MOUNTING FRAME – for both hoists – 4.50

NOTE: We carry a complete line of hoists from small portables to huge, heavy duty types. Write for details.

SPECIAL 40,000 lb. THRUST HYDRAULIC CYLINDER

A GOV'T SURPLUS BARGAIN! This cylinder may be oil or air operated. Produces up to 40,000 lb. thrust with oil, on a 3000 PSI line pressure. May also be used as a low pressure air cylinder. Has a 4" bore and 18" stroke. 30½" long overall. Has been Navy overhauled. LIKE NEW! 49.95

NOTE. Our complete line of Hydraulics, including our own Custom Made line, is one of the largest stocks in the country. What we cannot supply we will manufacture to order.

UNIVERSAL JOINTS

Has a heavy duty, solid cast Bronze body. Rotates from 90° to 180° as desired. Has 29/32" diameter steel shafts with a ball and socket joint. In excellent condition. Ready-to-use!!! $5.95

Write TODAY for complete list of many other types of universal joints, hoists, hydraulics, etc.

SPECIAL 180° OFFSET DRIVE

For use where tremendous power at a low take-off RPM is desired. Has 6 gears rotating on self-lubricating, hi-speed roller bearings 85 to 1 gear ratio. Shafts are 1 1/4" and 3/8" diameter.

USED in good condition ONLY 5.95

NEW in excellent condition NOW 8.95

SAVE ON STEEL CABLE

ALLOY STEEL — Finest quality Alloy Steel cable. Rust & corrosion resistant.

Size	7 x 7 STRAND Price per ft.
1/16"	5¢
3/32"	6½¢
	7 x 19 STRAND
1/8"	9½¢
5/32"	10¢
3/16"	12½¢
1/4"	13½¢
9/32"	16½¢

STAINLESS STEEL — Aircraft Quality. Rust & Corrosion Proof. You can not beat this Bargain.

Size	7 x 19 STRAND Price per ft.
1/16"	7¢
3/32"	14¢
5/32"	21¢
3/16"	23¢
7/32"	29¢
1/4"	38¢
5/16"	47¢

SAVE ON NEW NYLON ROPE

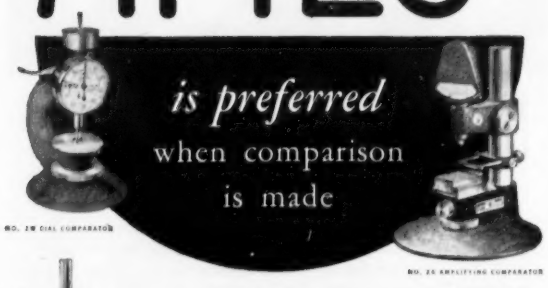
Very Finest Nylon Rope. Top Quality. Available in Sizes of 1/8" to 1" diam. Prices as low as 5¢ per running foot. Write Today for complete price list.

Palley's — 2261 E. VERNON AVE. DEPT. NED-5 LOS ANGELES 58, CALIF.

Order From This Ad – P.O's accepted from well rated D&B firms. Prices are F.O.B. our Los Angeles Warehouse.

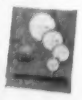
For more details circle NED-312 E7 on enclosed inquiry slip

AMES



For fast, accurate measurements, Ames Dial Comparators are the choice of quality control men everywhere. You get definite, impersonal readings directly from the dial. There's no guesswork or figuring.

Special comparators are available for measuring resilient materials such as rubber, paper, etc., and for measuring non-yielding materials such as sheet metal, glass and plastic. Write for complete details.



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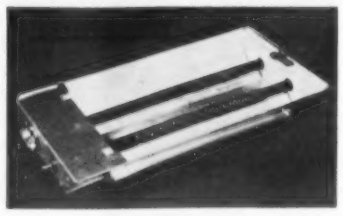
MANUFACTURERS OF MICROMETER DIAL GAUGES • MICROMETER DIAL INDICATORS

For more details circle NED-313 E7 on enclosed inquiry slip

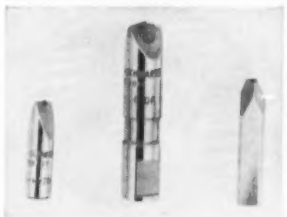
INFRARED HEATING UNIT for portable industrial heaters



This coil heating unit for use in portable or mounted heaters, broiler units, air conditioners, baseboard heaters and industrial heaters is offered with either red tinted or clear Vycor silica glass tube sheath. Unit comes in 12, 18, 24, 36 and 48 in. lengths and in 500, 750, 1000, 1500 and 2000-w ratings. Tubing can withstand operating temperatures to 1560° F. Glass surface temperature for a 500-w per foot red sheath is 840° F. Made by **Corning Glass Works,** Dept. 21, Box 544, Corning, N. Y.

For more details circle NED-315 E7 on enclosed inquiry slip

DIAMOND DRESSING TOOLS reproduce jet blade root sections

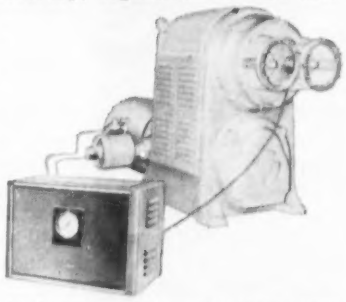


"Pine tree" and other root sections of jet blades and buckets can be reproduced on two-wheel precision form grinders when wheels are shaped with these diamond dressing tools. Triangular macle diamond is centered in the tool shank by a powdered metal matrix material. Jet tools shown are Jones & Lamson NX-976-1 with 0.017-in. radius; Pratt & Whitney Dia-Form with 40-degree included angle and 0.010-in. radius; and Ex-Cell-O 48-4428. Made by **Craine-Schwartz Diamond Tool Co.,** 8100 Lyndon, Detroit 38, Mich.

For more details circle NED-316 E7 on enclosed inquiry slip

VARIABLE SPEED DRIVE speed held within ¼ of 1 per cent

Varidrive variable speed drive equipped with speed-sensitive Varitrol maintains any speed in its range within ¼-per cent accuracy, regardless of load fluctuations. Speed control can be adapted to any 1 to 60-hp Varidrive. Aero test stand can be supplied for 1 to 75 hp continuous and to 100 hp for intermittent duty with speeds up to 15,000 rpm. Stands have one or two mounting pads for connection of alternators, hydraulic and fuel pumps, and other equipment. Made by **U. S. Electrical Motors Inc.,** Dept. NED, 200 E. Slauson Ave., Los Angeles 54, Calif.



For more details circle NED-317 E7 on enclosed inquiry slip

"SILVER" PAPER SHREDDERS FOR COST-CONSCIOUS EXECUTIVES

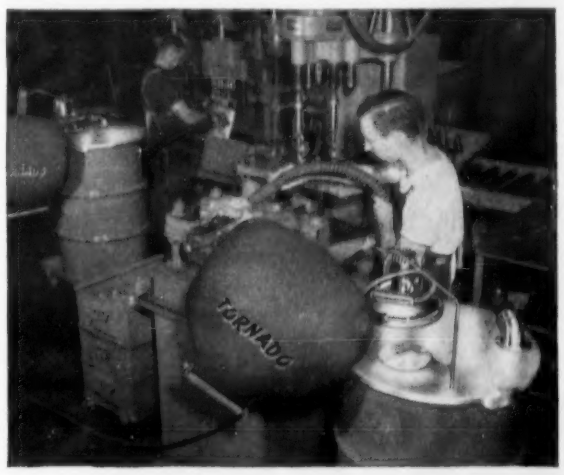
USED IN THOUSANDS OF PLANTS TO REDUCE PACKING COSTS

TRY THE "SILVER 13-C" FOR 10 DAYS—FREE!

Reduce your packing material costs as much as 40% by shredding your own paper. The "Silver 13-C's" fast, efficient, low-cost operation and many new mechanical improvements make it the fastest-selling Shredder in the industrial field. 7 other models available, too, depending on your needs and capacity desired. 10-day free trial in your own plant. Write for helpful data on how you can cut your packing costs . . . at the same time, dispose of excess paper materials.

INDUSTRIAL SHREDDER & CUTTER CO.
107 Mill Street Salem, Ohio

For more details circle NED-318 E7 on enclosed inquiry slip



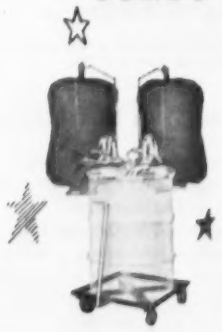
TORNADO PAYS OFF ON THE PRODUCTION LINE AT *AMERICAN BOSCH*

Two Tornado Jumbo Vacuum Cleaners at American Bosch in Springfield, Mass., help keep the production line humming—and by the way, have paid for themselves many times.

In the photo above, you see two Tornado cleaners "gulping" non-ferrous metal chips clear of expensive dies, thus enabling machinists to work uninterrupted and safely. And these chips also have a high reclaim value when sold as scrap.

A Tornado Jumbo Conversion Cleaner could mean speedier production, greater safety and extra profits for your company, too. Why not try it—we know you'll buy it!

JUMBO CONVERSION



If you need greater suction—in addition to larger storage—the Tornado Jumbo Plate which fits all standard 55-gallon drums will deliver, by using two motor units, up to 3 H.P. of suction. Tornado also supplies a 4-wheel dolly with 2 swivel wheels and a pulling handle.

Write for Bulletin No. 758

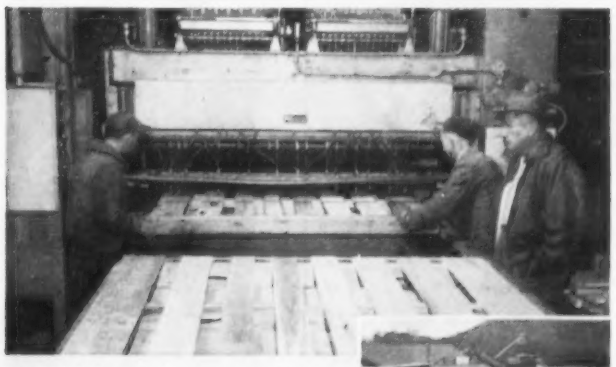
BREUER ELECTRIC MFG. CO.

5116 North Ravenswood Avenue • Chicago 40, Illinois

For more details circle NED-319 E7 on enclosed inquiry slip

WITH AN FMC AUTOMATIC HARDWOOD PALLET NAILING MACHINE

Mr. W. C. Maness says, "I CAN MAKE A BETTER PALLET, AT LESS COST AND FAR MORE RAPIDLY THAN UNDER THE HAND NAILING PROCESS WE FORMERLY USED."



An FMC Automatic Hardwood pallet Nailer like this one in operation at Maness Mfg. Co., Bryson City, N. C. will lower your accident rate, will drive screw type nails, raise your product quality.

Follow the lead of the Maness Manufacturing Company and put the FMC 401000 nailer to work for you today and get these same benefits in *your* plant. In addition to the direct savings outlined above, you'll find an FMC nailer will:

Reduce splitting
Nail wet or dry hardwood
Produce your orders on time
Increase your production
Countersink nails

Yes, for profit, substitute the automation of an FMC Nailer for out-of-date hand nailing. As Mr. Maness says, "We've had no mechanical failures." That means you, too, can build your nailing operation around the dependable FMC hardwood nailer.

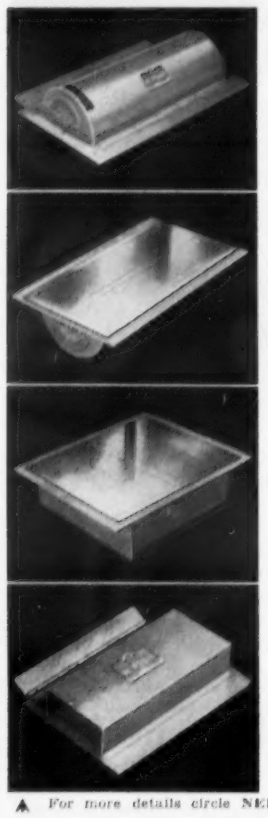
Write today for complete details.

FOOD MACHINERY AND CHEMICAL CORPORATION
NAILING MACHINE SECTION
RIVERSIDE, CALIFORNIA

fmc

Food Machinery and Chemical Corporation; Nailing Machine Section, Riverside, Calif.
Please send information on Nailing Machine Checked
☐ Pallet Maker ☐ General Purpose Nailer
NAME_____ COMPANY_____
ADDRESS_____
CITY_____ STATE_____

For more details circle NED-314 E7 on enclosed inquiry slip



ERIEZ
permanent-powered PLATE MAGNETS

Prevent Fires, Machinery Damage, Product Contamination

In 100 fields, Eriez Plate Magnets are proving their value by pulling tramp iron from lines of all kinds. Powerful, fully enclosed magnetic units have strong, riveted construction. Stationary and hinged models for use in chutes, spouts, hoppers or for installation over inspection tables and moving belt lines. Three strengths: Extrapower, Ultrapower, Superpower—all in a multitude of types, shapes and sizes. *Eriez Plate Magnets are non-electric, self-contained, operate without any wires or attachments. Magnetic strength is guaranteed forever; first cost is the only cost.*

Write for BIG NEW BULLETIN describing complete Plate Magnet line.

ERIEZ Mfg. Co.,
80-S Magnet Drive, Erie, Pa.

ERIEZ HI-POWR MAGNETIC SEPARATORS

Magnetic SEPARATION AUTOMATION VIBRATION equipment

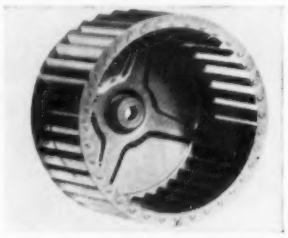
▲ For more details circle NED-320 E7 on enclosed inquiry slip ▲

SUBMINIATURE RELAY
has lugs for printed circuit use

Subminiature type MR relay can be adjusted for as low as 10 milliwatts pull-in. It has lug arrangements for use on printed circuits and is equipped with plated or nonplated solid brass terminals. Fine silver or suitable noble metal alloy contacts permit upwards of 25 w of power control for noninductive applications. Contact shapes and materials can be arranged for larger wattages and various inductive loads. Relay projects slightly less than 1 in. beyond lugs. Made by **Jaidinger Mfg. Co.,** 1921 W. Hubbard St., Chicago 22, Ill.

▲ For more details circle NED-322 E7 on enclosed inquiry slip ▲

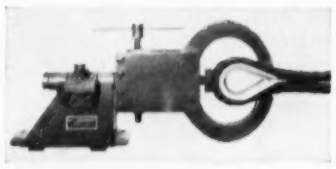
BLOWER WHEELS
36-blade type offered in 10 models



Deep blades with wide working area offer high efficiency in Tab Lock series of blower wheels for air conditioning, heating and ventilating units and appliances. The 36-blade wheels are available in 10 models with diameters of 6 5/16, 7 3/32 and 8 in. and various widths. A 44-blade model with a 10¾-in. OD and 1 31/32-in. width is also available. Tab Lock wheel can be single or double width, steel or aluminum, and can have plain finish, one-color spray lacquer or zinc plate. Made by **Torrington Mfg. Co.,** Air Impeller Div., Dept NED, Torrington, Conn.

▲ For more details circle NED-323 E7 on enclosed inquiry slip ▲

WIRE ROPE SPLICER
puts loop in up to 1½-in. rope



Improved model 10-B Torquemaster splicer for splicing loops in wire rope features redesigned seating for better holding. In splicing loops, jaws clamp rope tight around thimble contour. Thimble backs up rope at point where splice is being effected. Jaws are rotated counter to lay of cable to remove initial tension in standing part of cable so that the end strands can be run through. Loose ends can then be tightened with tightener which provides leverage of 25:1. Twenty pounds pressure on handles exerts 500-lb pull on strands. Small jaw assembly with ¼ to 1-in. rope capacity can be interchanged quickly with large assembly having up to 1½-in. rope capacity. Made by **Quay Industries,** Dept. NED, 2135 Riverside Ave., Jacksonville 4, Fla.

▲ For more details circle NED-324 E7 on enclosed inquiry slip ▲

GET THE LATEST INFORMATION ON SUPER PRESSURE TUBING

FREE

Be sure to add this useful bulletin on super pressure tubing to your file of technical data. It covers sizes, tolerances, tempers, lengths, and includes a handy table of minimum burst pressures for various sizes. Other sections cover the following: single and composite wall tubing; methods of manufacture; special inspections; recommended fabrication procedures; and many applications.

Superior manufactures super pressure tubing in sizes ranging from ¼ in. OD x 3/32 in. ID, to ¾ in. OD x 1/16 in. ID. It can contain pressures varying from 15,000 to 100,000 psi. This tubing is subject to rigid testing and inspection, and all orders are 100% hydrostatically tested before shipment.

Call on Superior for all your small tubing needs. We produce tubing in over 63 analyses, including stainless, carbon and alloy steels, nickel and nickel alloys, beryllium copper, titanium and zirconium.

SEND FOR YOUR FREE COPY OF DATA MEMORANDUM #22

Superior Tube
The big name in small tubing
2018 Germantown Ave.
NORRISTOWN, PA.

All analyses .010 in. to ⅛ in. OD—certain analyses in light walls up to 2½ in. OD

▲ For more details circle NED-326 E7 on enclosed inquiry slip ▲

NICOTE Metallized Ceramic Coating
...for use with both hard and soft solders!

NICOTE is Frenchtown's new exciting discovery . . . a *single* metallic coating for refractory ceramic bodies which provides a surface for applying solders with melting points between 275° and 1000°. With NICOTE, no buffing, electroplating or tinning is necessary in most applications to form a strong, firmly-adhering bond with either *hard* or *soft* solders. NICOTE's mechanical bond makes it ideal for hermetic seals, high strength mechanical seals, and vacuum applications. Bulletin 155 contains complete engineering details. Write for a free copy today!

frenchtown PORCELAIN COMPANY
97 Muirhead Avenue • Trenton 9, New Jersey

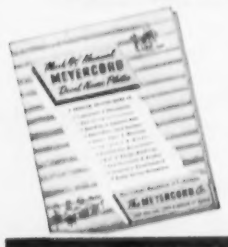
▲ For more details circle NED-327 E7 on enclosed inquiry slip ▲

NAMEPLATE DECALS

If you have adhesive problems with the water applied decals you are now using...switch to NEW MEYERCORD TYPE I

This is BIG NEWS about a new addition to the Meyercord "family" of commercial nameplate decals! Meyercord has perfected a completely new water applied decal nameplate with revolutionary advantages. This new TYPE I Decal instantly grips virtually any commercial surface with bulldog tenacity. It will cling and adhere with ease to acrylics, metal (painted or unpainted), melamines, polyethylenes . . . to mention only a few of the more difficult. Type I decals are applied with all the usual ease of any water applied decal but they do not depend upon water solubility for adhesion. Even if oversoaked for long periods there is no damage or adverse effect on the adhesion. TYPE I Decal Nameplates can be designed to include colorful halftones as well as plain poster-style designs. However, for the present, this new TYPE I Decal can be manufactured in production line quantities only. Let us prove that TYPE I can be the answer to the most stubborn nameplate problem. Send sample of surface and material—for samples and full information. No obligation, of course.

FREE! "MARK-IT" MANUAL OF DECAL NAMEPLATES



Send today, on your company letterhead, for this valuable full-color guide to every industrial problem in marking, identification, instruction, and information. Gives you hundreds of new ideas for the application of decals to your products.

THE MEYERCORD CO.
World's Largest Decalcomania Manufacturers
DEPT. G-316, 5323 WEST LAKE STREET • CHICAGO 44, ILLINOIS

▲ For more details circle NED-321 E7 on enclosed inquiry slip ▲

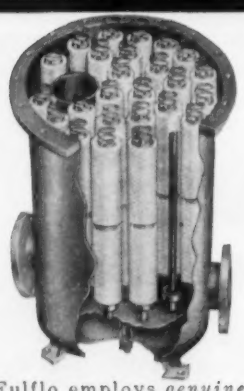
There's a *Fulflo Filter* to meet your exact needs for Continuous Micronic Clarity

Fulflo Filters give you the exact degree of continuous micronic clarity you need — for all types of industrial fluids: oils; liquid chemicals; water; liquid fuels; lubricating oils; lacquer; paint; thinner; compressed air; CO_2 and other gases; commercial fluids. There's a Fulflo Filter to meet *your* needs — for high or low flow rate, pressure, viscosity, pH, or temperature. Standard models meet all normal operating conditions. Special filters are engineered for flow rates up to 2000 gpm or pressures as high as 5000 psi.

For engineering help — call on Commercial.
For technical literature, write Department NE.

COMMERCIAL FILTERS CORPORATION
MELROSE 76, MASSACHUSETTS

Plants in Melrose, Massachusetts and Lebanon, Indiana



Fulflo employs *genuine* Honeycomb Filter Tubes in a wide range of positively controlled densities. Filter elements are made from cotton, nylon, orlon, dacron, dynel, acetate or glass fibres. Containers are available in iron, steel, stainless steel, rubber-lined steel, or nickel-plated brass. Containers can be built to ASME or other code specifications.

CFC

CFC Oil Filters (including former Honan-Crane models) effect substantial savings by reducing wear and prolonging equipment life. The CFC Multi-Cartridge Filter gives you a choice of six types of interchangeable cartridges for filtering both soluble and insoluble impurities in cutting, quenching, and rolling-mill oils; turbine and vacuum pump oils; fuel and lubricating oils.

▲ For more details circle NED-325 E7 on enclosed inquiry slip ▲

Use Parker *Unipar* for sealing threaded joints

- Universal thread and gasket compound.
- Easy to apply. Lubricates and seals. Easy to disconnect.
- Seals water, steam, gas, oil, gasoline, etc.
- Extreme pressures; temperature range −70° to +300°F.
- Once you try it, you'll always use it.
- Call us for immediate delivery of Parker *Unipar*.

Parker
Hydraulic and fluid system components

Order from your Parker Distributor—or Rubber Products Division, Section 520-Q, The Parker Appliance Co., 17325 Euclid Ave., Cleveland 12, Ohio

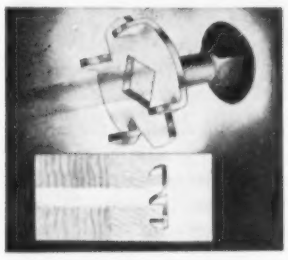
For more details circle NED-328 E7 on enclosed inquiry slip

WIRE SYSTEM TESTER
checks aircraft fire warning system

Five basic checks relative to aircraft fire detection and thermal switch systems can be made on the aircraft or "on the bench" in production with the Tempcal tester. It functionally tests fire detection and wing anti-ice systems; tests calibration and accuracy of thermal switches; bench-checks calibration and accuracy prior to installation; checks cylinder head thermocouples and their circuits; and functionally checks continuous wire systems. Accuracy is to within ±5° F with temperatures ranging from 0 to 800° F. Heater probes for cylinder head temperature thermocouples are accurate to ±4° C at up to 300° C. Made by **B & H Instrument Co.**, 3103 Trinity St., Ft. Worth 7, Tex.

For more details circle NED-331 E7 on enclosed inquiry slip

TORQUE WASHERS
keep carriage bolts from turning



Carriage bolts used in many applications as fasteners can be kept from turning in either direction with Ace torque washers. These washers have square center holes and fit snugly over the square section underneath the head of the carriage bolt. Four prongs imbed themselves in the wood and hold the bolt from turning. Sizes for ¼, 5/16, ⅜ and ½-in. bolts are offered. Made by **Frank L. Robinson Co.**, 508 Sixteenth St., Oakland 12, Calif.

For more details circle NED-332 E7 on enclosed inquiry slip

POWER CAPACITORS
foil cooling dissipates heat

Varex line of 50 and 25-kvar power capacitors meets NEMA and national standards for dimensions and performance and fits into existing racks and hangers. Voltages range from 2.4 to 7.96 kv. Individual elements made up of insulating paper and aluminum foil are placed horizontally so that container sides are used as radiating surfaces. Mild steel or stainless steel containers have an epoxy-resin protective finish. Made by **Ohio Brass Co.**, 380 N. Diamond St., Mansfield, O.

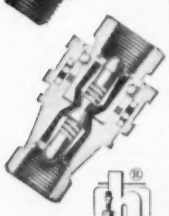
For more details circle NED-333 E7 on enclosed inquiry slip

for each particular type of application...

ALWAYS SPECIFICALLY ENGINEERED ...NEVER MERELY ADAPTED

HANSEN QUICK-CONNECTIVE COUPLINGS

ONE-WAY SHUT-OFF
Shuts off one side of line
Can be instantly connected or disconnected with immediate flow or shut-off of fluid from supply end of line. Available in wide range of sizes, with various types of fittings.



TWO-WAY SHUT-OFF
Shuts off both sides of line
Quickly connected or disconnected. Identical torpedo type valves provide instant shut-off of fluid on both sides of line. Female pipe thread connections from ⅛" to 1". Available in brass or steel.

Also Straight-Through Couplings
Sizes ranging from ¼" to 2½" carried in stock.

WRITE FOR THIS HANSEN CATALOG
Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 11, OHIO

For more details circle NED-329 E7 on enclosed inquiry slip

NEW LOW COST NESTIER®
"GENERAL PURPOSE" BOXES AND BASKETS

Designed for
GREATER ECONOMY IN SMALL PARTS HANDLING

Completely redesigned, "General Purpose" materials handling boxes and baskets are priced one-third lower than other NesTier containers, yet incorporate all of their exclusive cost-cutting features. Empty units nest compactly . . . filled containers tier in rigid stacks. Available in five sizes, NesTier "General Purpose" boxes and baskets are pre-engineered for use throughout the plant.

Write today for literature.

NESTIER

C 340 DN

THE CHAS. WM. DOEPKE MFG. CO., INC. 8884 Blue Ash Rd. Rossmoyne, Ohio

For more details circle NED-330 E7 on enclosed inquiry slip

Quickdraft... the world's most efficient power exhauster

N-499-QD

...for industry
★ NO MOTORS, FANS OR BEARINGS IN EXHAUST LINE
★ NEEDS NO STACK
★ ACID RESISTING VITREOUS ENAMEL FINISH

Quickdraft improves industrial exhausting and cuts maintenance costs. Its blower operates in clean or outside air . . . eliminating down-time for cleaning and replacing fan blades. Quickdraft excels in venting paint booths . . . lightweight and abrasive waste . . . cellophane cuttings . . . chemical fumes . . . corrosive gases . . . noxious fumes . . . high temperatures . . . moisture and smoke. For heating units, it maintains constant draft required for efficient and economical combustion of all fuels. *Send for engineering data . . . today.*

Quickdraft COMPANY
P. O. Box 87-L, Dueber-Hampden Bldg., Canton, O.

Capacities of 56 standard and heavy duty models from 6 to 30 inches diameter . . . 8,400 CFH to 1,005,960 CFH. Greater capacities on request.

For more details circle NED-334 E7 on enclosed inquiry slip

MARK METAL-WOOD-PLASTICS-GLASS

WITH THE Nissen MARKER

Line 5/64" Thick
Line 1/8" Thick
Line 3/16" Thick

A handy, easy-to-use, ball-point marker for coding, numbering, marking on metal, wood, plastic and glass—smooth or rough surfaces. The tube contains a special, fast drying *opaque* ink that withstands heat and weathering under adverse conditions and will not chip, peel, fade or rub off.

Three different size ball points are available for making fine or broad lines—as illustrated.

JOHN P. NISSEN, JR. CO., *Manufacturers*
GLENSIDE, PA.

For more details circle NED-335 E7 on enclosed inquiry slip

Specify MONARCH SOLID TIRES FOR EVERY LIFT TRUCK JOB

7604-MR

Mono-Cushion®
This high-performance tire, featuring the Monarch-developed heavy-duty lug tread, has outstanding shock absorbing capacity . . . is recommended for fragile loads and rough floors.

UNIVERSAL
An all-purpose workhorse, this utility tire is widely used for "average" lift truck jobs. It provides exceptional stability on high lifts and short turns plus good shock absorption.

TRACTION TREAD
Combining the inherent stability of a Universal with extra pulling power and traction, this lug tread tire performs for ton-mile after ton-mile at surprisingly low cost.

SPECIAL COMPOUNDS
Monarch also can supply special-purpose tires, with smooth or traction treads, on special order:
NEOPRENE . . . for extra resistance to oils, solvents, chemicals, extreme heat.
NON-MARKING . . . to eliminate smudges and skid marks on tile or painted floors.

FOR COMPLETE DETAILS, SPECIFICATIONS AND PRICES ...ask your truck dealer, or write, for new CATALOG & HANDBOOK MR-457

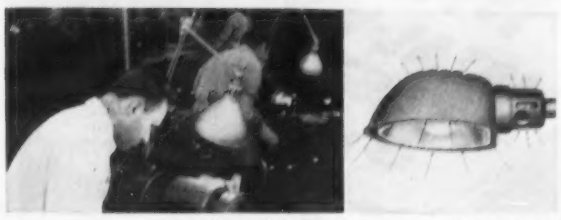
THE MONARCH RUBBER COMPANY
260 LINCOLN PARK
HARTVILLE, OHIO

• 7-255 Gen. Motors Bldg., Detroit, Mich.
• 1035 Bartlett St., Hayward, Calif.

For more details circle NED-336 E7 on enclosed inquiry slip

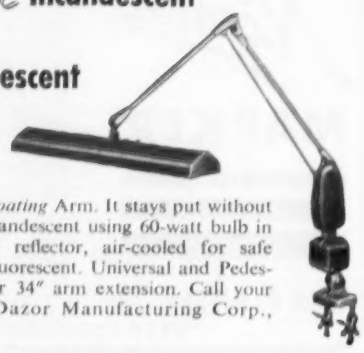
DAZOR FLOATING LAMPS

Fit the Lighting to Each User and Each Job



Top-Mounted Reflector Side-Mounted

Air-Cooled Incandescent or Fluorescent



People . . . jobs . . . lighting needs differ. Let each employee control light location with the Dazor *Floating* Arm. It stays put without locking. Choice of Incandescent using 60-watt bulb in top- or side-mounted reflector, air-cooled for safe handling; or 2-tube Fluorescent. Universal and Pedestal models with 24" or 34" arm extension. Call your Dazor distributor. Dazor Manufacturing Corp., St. Louis 10, Mo.

For more details circle NED-338 E7 on enclosed inquiry slip

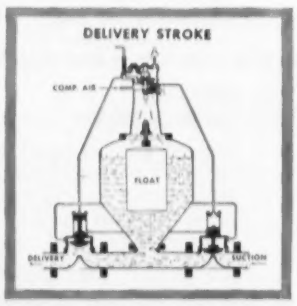
So gentle it pumps live goldfish—so tough abrasive liquids can't hurt it

New, air-operated *Ejectopump* works with a powerful yet gentle action. Whole grapes or even live goldfish can be pumped without crushing. "Handle with care" materials such as latex are pumped without shear or turbulence. Because there's no churning or whirling action, *Ejectopump* is also ideally suited for pumping pottery slip, gritty sumps and other highly abrasive liquids.

Ejectopump needs practically no maintenance. Has no rotating or reciprocating parts, no bearings, no packing. Needs no lubrication. Quickly disassembled for cleaning.

Operation

Connect to compressed air line 30 to 50 psi. Handles discharge heads up to 100 ft., with maximum suction 20 ft. Pump is self-priming, may be installed above level of liquid pumped. Can be furnished in special alloys for pumping corrosives. Sizes: 1½", 2", 3", 4", 6". *WRITE TODAY* for complete information and prices.



FERRO

FERRO CORPORATION
Supplies Division
4150 East 56th Street, Cleveland 5, Ohio

Ejectopump

COMPRESSED AIR OPERATED

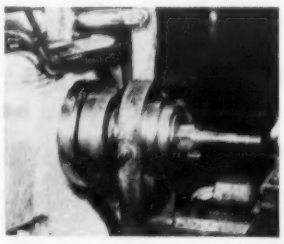
For more details circle NED-339 E7 on enclosed inquiry slip

HONING STONES for high speed steel and carbide

Made of bond-free polycrystalline ruby and sintered at high temperature, Degussit honing stones are equally effective in honing high speed steel and tungsten carbide. They are available in various sizes and shapes, including mounted wheels, for all types of tool, die and instrument work. Photo shows display kit with samples of entire line. Available from **Lovejoy Tool Co.**, Springfield, Vt.

For more details circle NED-340 E7 on enclosed inquiry slip

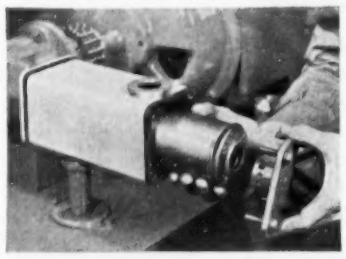
COLLET CHUCK for 8-in. flange type spindles



Wide range of adjustment is built into the model C 3-in. collet chuck for American Standard 8-in. flange type spindles. A minimum of tooling adapts it to threaded spindles. One full stroke of the operating sleeve offers 0.050-in. automatic adjustability, plus an extra 0.025-in. opening for stock removal. Further adjustment is by adjusting ring. Hot rolled stock can be run with variances up to 0.085-in. Collet is used for up to 3¼-in. rounds, 2¼-in. squares and 2¾-in. hexagons. Work can be changed while the lathe is running. Operation is by hand lever or air or hydraulic cylinder. Made by **Hall Mfg. Co.**, 1622 N. Tularosa Dr., Los Angeles 26, Calif.

For more details circle NED-341 E7 on enclosed inquiry slip

HYDRAULIC STRAINER UNIT signals when cleaning is needed



A device in the Telltale hydraulic strainer indicates by a red signal when the strainer is dirt-clogged. At the same time, strainer is pulled aside by pump suction to allow free flow of oil around it. Optional limit switch provides for remote signal light. Strainer is easily removed since it is held in place only by the bolted-on end plate. Usable oil supply is increased by up to 20 per cent. A manifold to mount dual strainers is available for doubling capacity to 40 gpm. Made by **Rosaen Co.**, 1758 E. Nine Mile Rd., Hazel Park, Mich.

For more details circle NED-342 E7 on enclosed inquiry slip

NEW BALANCED CUTTING ACTION

Severance ECARNO-MILLS

THE ECONOMY MILL NEW DESIGN NEW CARBIDE

Make your money count! Replace more H.S. Rotaries and Mounted Grinding Points.

SOLID CARBIDE CUTTING HEADS

22 Shapes and Sizes Available

A NEW LOW PRICED HIGH CLASS PERFORMER

Made by the originator of ground-from-the-solid Rotary Files, and pioneer in this type of Carbide Mill, who presently offer the largest range of standard types, shapes, and sizes.

YOUR SPECIAL DEBURRING PROBLEMS ARE SOLICITED

OPERATE EFFICIENTLY AT USUAL CARBIDE SPEEDS, YET PERFORM BEAUTIFULLY AT THE SLOWER SPEEDS OF STEEL CUTTERS

PHONE, WIRE, OR WRITE US NOW FOR PRICES

Severance TOOL INDUSTRIES INC.
761 Iowa Ave. Saginaw, Michigan
Ask for a Severance catalog today!

For more details circle NED-343 E7 on enclosed inquiry slip

WHERE?

Where do you go for the *finest* fire warning equipment? To Kidde, for the dependable "Atmo" Fire Alarm System. Actuated by rate-of-temperature-rise at the first hot breath of fire, the system sounds an alarm. Main control box gives fire location. System operates independent of outside power sources. Self-supervising and self-resetting, Kidde-Atmo systems are custom-designed to fit your property. Write for the Kidde-Atmo Catalog I-4.

Kidde—Atmo
FIRE DETECTION

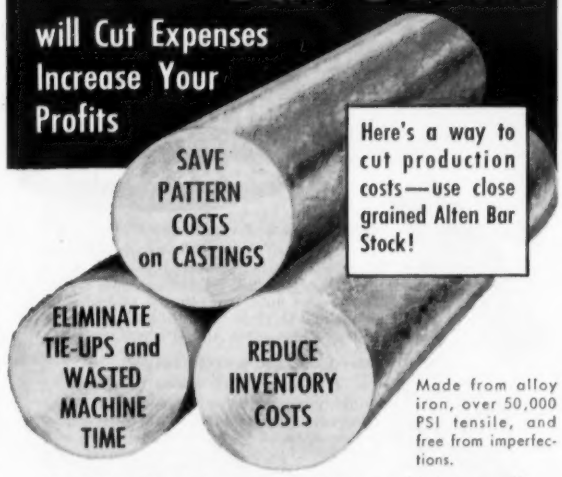
J. H. SCHARFF, INC.
524 Main Street, Orange, N. J.

A Subsidiary of Walter Kidde & Company, Inc.

For more details circle NED-344 E7 on enclosed inquiry slip

ALTEN Bar Stock

will Cut Expenses Increase Your Profits



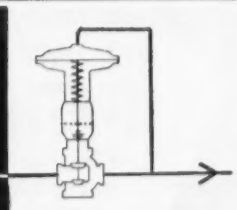
Alten Bar Stock has outstanding machining quality—will give high polish. Standard length is 16 inches to 3 feet—all diameters. Other shapes—flats, discs, squares, bushings are also available.

PROMPT DELIVERY
Bar Stock is available for immediate shipment from stock.

ALTEN FOUNDRY and MACHINE WORKS, INC.
Lancaster, Ohio

For more details circle NED-345 E7 on enclosed inquiry slip

Need a Pressure Regulator?



CONSIDER FISHER Series 655

For simple and accurate regulation of steam, oil, gas or other fluids, you will find this self-operated controller can not be beat.

Suitable for pressure ranges between 1 and 150 psi for pressure reducing or pressure relief service. Sizes 1" to 6".

Write for Bulletin C-655.

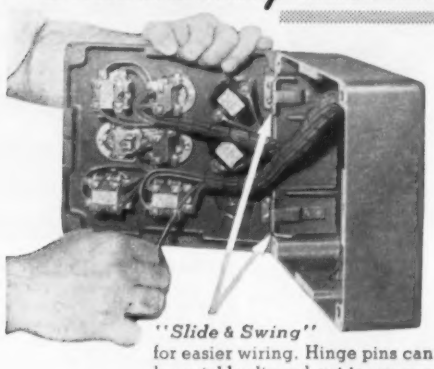
FISHER GOVERNOR COMPANY
Marshalltown, Iowa • Woodstock, Ontario

For more details circle NED-346 E7 on enclosed inquiry slip

FOR Easier Wiring

Square D OIL-TIGHT PUSHBUTTON STATIONS

with "Slide & Swing" HINGE COVERS



"Slide & Swing" for easier wiring. Hinge pins can be quickly slipped out to remove cover when installing units.

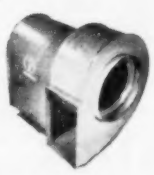
Write for Bulletin 9001 Type T. Address Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin.

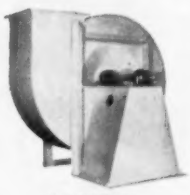
NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

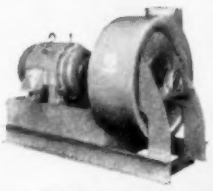
For more details circle NED-347 E7 on enclosed inquiry slip

*WEATHERPROOF VENTILATING SETS 100 CFM to 23,000 CFM Both belted and direct drive Bulletin UVS 103



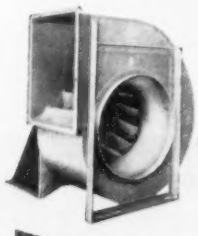


INDUSTRIAL EXHAUSTERS 200 to 55,000 CFM Bulletin MX 104R



TURBO BLOWERS 4 oz. to 48 oz. 70 CFM to 6,000 CFM Bulletin CB 108R

GENERAL BLOWER MECHANICAL LUNGS FOR INDUSTRY

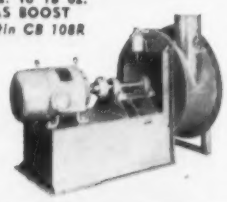


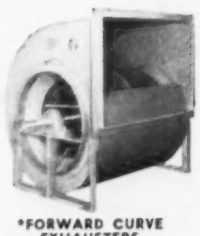
*BACKWARD BLADE NON-OVERLOADING CENTRIFUGAL FAN Wheel size 12" to 72" Bulletin BB 102

BELT DRIVEN DUCT FANS 14" to 72" Bulletin IPF 101

FUME EXHAUSTERS

GAS BOOSTER 1.4 oz. to 18 oz. GAS BOOST Bulletin CB 108R





*FORWARD CURVE EXHAUSTERS Low speed ventilation. Efficient and quiet. Bulletin FC-101

*Certified ratings authorized by NAFM.

HEAT FANS CENTRIFUGAL FANS CLASSES I-II-III-IV ALLOY STEEL TEMPERATURE RANGES TO 1600°

Over 20 years of engineering and manufacturing experience

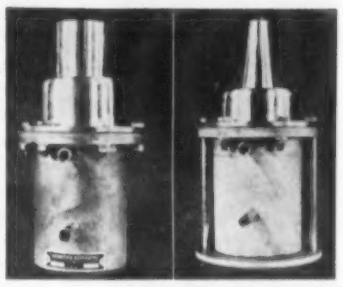
AMERICA BREATHES EASIER with "Lungs for Industry"

GENERAL BLOWER COMPANY

8613 FERRIS AVE., MORTON GROVE, ILL.

For more details circle NED-348 E7 on enclosed inquiry slip

ULTRASONIC TRANSDUCERS for high temperature environments

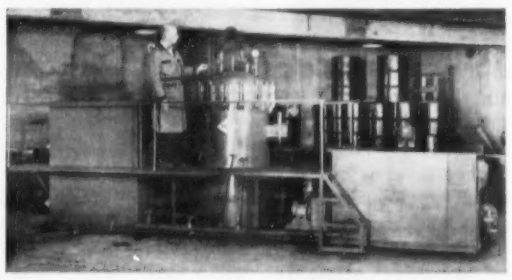


High amplitude ultrasonic motion, such as used for drilling, grinding and particle disintegration, can be developed by two ultrasonic transducers designed for use in high temperature environments. They have internally biased, water-cooled, 400-1600-w magnetostrictive driving elements operating at 25 kc, and can be driven singly or in groups by 400-w to 10-kw generators. Model AT-1600B, left, has water jacketed coupling slug for use of high power transducers for such applications as molten metal degassing, grain refinement and alloy dispersing of metal castings and chemical processing above 212° F. Model AT-1600C, right, has tapered steel amplitude multiplier. It can be used for many kinds of ultrasonic work where large peak-to-peak amplitudes are required. Made by **Acoustica Associates, Inc.**, Dept. NED, Shore Rd., Glenwood Landing, L. I., N. Y.

For more details circle NED-349 E7 on enclosed inquiry slip

BATCH IMPREGNATION UNITS packaged units offered for use with plastic or metal oxide sealers

Economical batch impregnation of pressure castings of all kinds with either plastic or metal oxide type sealing materials is possible with the model P-100



series packaged batch impregnation units. Equipment consists of a 300-gal sealant supply tank, 200-gal sealing tank, a 450-gal rim-spray rinsing tank, vacuum pump, heating elements, motor driven agitator and controls. Floor space required is about 66 x 200 in.

Gas, electric and steam heaters are available with thermostatic controls for metal oxide type sealers. When plastic sealing material is used, packaged unit includes an insulated refrigerator type supply tank. Vacuum pump is a continuous operating 29.9-in. Hg type driven by a 1-hp, 220-440 v, 60-cycle, three-phase motor. Made by **Prenco Products, Inc.**, 511 E. Ten Mile Rd., Hazel Park, Mich.

For more details circle NED-350 E7 on enclosed inquiry slip

DON'T GUESS...TEST!

MEASURE RPM AND FPM use STICHT TACHOMETERS

ALL TACHOMETERS EQUIPPED WITH OVER-SPEED PROTECTION

Available Ranges:

TYPE "UO", 5-RANGE TYPE

CATALOG NO. 303, 30-12,000 RPM

CATALOG NO. 314, 45-18,000 RPM

CATALOG NO. 322, 60-24,000 RPM

CATALOG NO. 346, 120-48,000 RPM

BULLETIN NO. 751

TYPE "UY", 3-RANGE TYPE

CATALOG NO. 630, 25-30,000 RPM

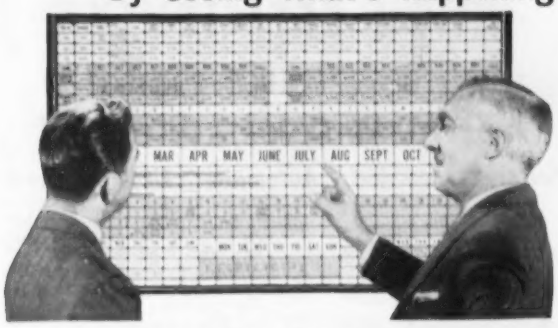
CATALOG NO. 640, 30-40,000 RPM

BULLETIN NO. 756

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N.Y.

For more details circle NED-351 E7 on enclosed inquiry slip

You Get Things Done Better By Seeing What's Happening



BOARDMASTER VISUAL CONTROL

★ Gives Graphic Picture of Your Operations in Color.
★ Facts at a Glance—Saves Time and Prevents Errors.
★ A Simple, Flexible tool—Easily Adapted to Your Needs.
★ Easy to Use. Type or Write on Cards, Snap on Board.
★ Ideal for Production, Scheduling, Sales, Inventory, Etc.
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FREE 24-Page ILLUSTRATED BOOKLET N-300 Without Obligation

GRAPHIC SYSTEMS, 55 West 42nd St., New York 36, N. Y.

For more details circle NED-352 E7 on enclosed inquiry slip

6-IN-1 YARD MACHINE performs function of 2½ ton crane, lift fork, bucket loader, dozer, car spotter and snow remover

The all-purpose, 6-in-1 Pettibone Speed Swing yard machine, with exclusive 180° boom swing and quickly changed attachments, eliminates the extra investment

required for several machines. The balanced frame and low center of gravity provide a high safety factor, especially for crane work. You'll value Speed Swing features: Torqmatic power-shift transmission, planetary axles, 3 forward and 3 reverse speeds, high flotation tires for off-pavement and over-track work, 2 or 4 wheel drive, 2 or 4 wheel steer, and optional heated cab. Ask for Bulletin P-264-N.

THE NEW YARD SENSATION PETTIBONE SPEED SWING

Pettibone Mulliken Corp., 4700 W. Division St., Chicago 51, Ill. • SPaulding 2-9300

For more details circle NED-353 E7 on enclosed inquiry slip

new, revised slide chart

on Carpenter stainless steels

Features information NEVER AVAILABLE BEFORE in slide chart form

For the first time, with slide chart ease, convenience, and accuracy, you can put your finger quickly on a host of facts such as speeds and feeds for machining, drilling and threading stainless steels.

Second side is an up-to-date version of Carpenter's earlier issue Slide Chart. Contains all you need know to select the proper stainless for drawing, forging, heading, welding, roll forming, etc. Get your copy of this pocket-size reference today!

THE CARPENTER STEEL COMPANY
118 W. Bern St., Reading, Pa.

Please send me a copy of your new Carpenter Stainless Slide Chart. (Please print)

Company Name ____
Individual Name ____ Title ____
Address ____
City ____ Zone ____ State ____

For more details circle NED-354 E7 on enclosed inquiry slip

NOW... CONTINUOUS HIGH EFFICIENCY

with KOPPERS Model D Aeroturn Dust Collector!

Factory-Assembled... Automatic... Fits Anywhere!

Koppers Model D Aeroturn Dust Collector is a compact unit with king-sized features: patented reverse-air-jet action*, uninterrupted peak efficiency, and automatic self-cleaning. Put it in a corner . . . on a shelf . . . upon ceiling rafters. Koppers Model D Aeroturn occupies as little as 25 sq. ft. of space. Capacities range from 500 to 4800 CFM. Write today for complete information to: KOPPERS COMPANY, INC., *Industrial Gas Cleaning Dept.*, 5405 Scott St., Baltimore 3, Maryland.

*Hersey Patents

KOPPERS **AEROTURN DUST COLLECTOR**

Engineered Products Sold with *Service*

For more details circle NED-355 E7 on enclosed inquiry slip

Du Pont Industrial Blind Expansion Rivets reduced labor costs 50% on these 4' x 8' ten-gauge aluminum louvers. The customer stated that Du Pont rivets are faster, more efficient and require less manhours than the method used previously.

Metal Fabricator reduces assembly costs 50%

with Du Pont Industrial Blind Expansion Rivets

Air-Path Products Company, a division of Lloyd E. Mitchell, Inc. of Baltimore, Maryland, reduced the cost of assembling fabricated metal products by 50%, using Du Pont Industrial Rivets.

Here's how it was done on the aluminum stationary louvers pictured above. The cross blades of the louver are placed in position and held there by clips. Two holes are drilled in both sides of the frame for each blade. Du Pont Industrial Rivets are then placed in the holes and expanded with a Du Pont electrically heated riveting iron.

One man using one tool does the job faster and more efficiently than the method employed previously which required two men and considerably more time.

This is a typical example of the savings effected by Air-Path which uses both aluminum and brass Du Pont Industrial Rivets. Air-Path specializes in the production of stationary weather louvers, weatherproof louver dampers, aluminum backdraft and counterbalance dampers, vision-proof door grills and many other specialty metal products.

You too can save time and manpower through the use of Du Pont Industrial Rivets. For more information contact your jobber or write to E. I. du Pont de Nemours & Co. (Inc.), Explosives Department, Wilmington 98, Delaware.

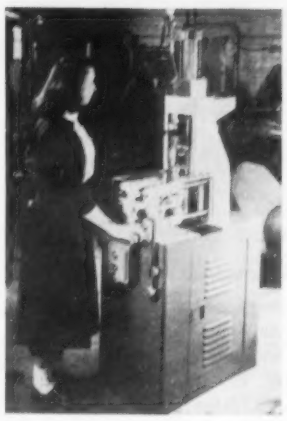
DU PONT INDUSTRIAL BLIND EXPANSION RIVETS

DU PONT *A Product of Du Pont Research*

Better Things for Better Living . . . through Chemistry

For more details circle NED-356 E7 on enclosed inquiry slip

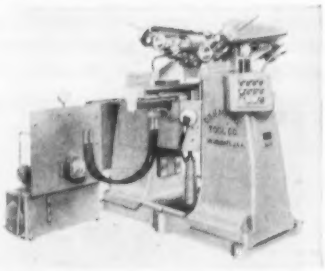
PLASTIC INJECTION MACHINES cut cost of small parts production



An almost unlimited variety of small molded plastic products can be economically produced by improved Mini-Jector injection molding machines. Operating flexibility is achieved by incorporating small parting-line sprued molds of 1/3 to 1-oz capacity. Machines will mold any thermoplastic, including nylon. Up to 30,000 psi is possible on material with hydraulically operated model. Machines can also perform insert molding or encapsulating of wires, cables, cords, or rods into plastic plugs, unions or handles. Air or hydraulic models with simple lever or push-button controls are offered. Prices start at $875.00; mold blanks, as low as $37.50. Model 60-PC75 shown has 6 x 5 x 5¼-in. mold size. Made by **Newbury Industries,** Box 24ED, Newbury, O.

For more details circle NED-357 E7 on enclosed inquiry slip

DOUBLE-COLUMN MILLING MACHINE has independent heads for many possible milling variations



Equipped with independent milling heads, positioned to user's requirements, the U.S. Hy-Flex double-column hydraulic production milling machine affords unusual milling flexibility. Any type heads can be mounted in the required position for milling, drilling, grinding, boring or special applications. Heads can be leading or opposed to each other—in line with, tilted above or below the horizontal plane. Worm gear drive allows swiveling the heads independently to any degree of elevation desired.

Machine can be equipped with a vertically mounted 7½ hp, No. 50 taper, 1800-rpm motorized milling spindle secured to a bridge based on both columns. Just as simply, it may be equipped with four horizontally mounted independently motorized high speed grinder spindles, two on each base. Knee, which has 15-in. vertical travel, is center-positioned above the vertical screw. Table has 30-in. table stroke, infinitely variable feed rate, forward and return jog and automatic or semiautomatic cycling of rapid traverse, feed, return and stop. Made by **Cincinnati Mfg. Corp.,** U.S. Burke Machine Tool Div., 2 Brotherton Rd., Cincinnati 27, O.

For more details circle NED-358 E7 on enclosed inquiry slip

Can you use this new fitting?

LOOK AT THESE BIG ADVANTAGES!

- Provides ideal, nonrigid take-off from engines, machines, equipment.
- Rugged—made to outlast the piping.
- Conventional flange at one end. Other end has flexible compression seal.
- Eliminates threading, exact pipe fitting.
- No exposed threads to invite corrosion.
- Takes up pipe misalignment, absorbs vibration.
- Ample pipe entrance—eliminates strain on piping.
- Suitable for gas, oil, water, air, gasoline, brine and many chemicals . . . where temperatures do not exceed 215°F. Sizes thru 2".

Write today for complete information.

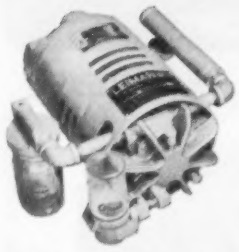
DRESSER MANUFACTURING DIVISION

30 Fisher Ave., Bradford, Pennsylvania

For more details circle NED-359 E7 on enclosed inquiry slip

If your VACUUM or PRESSURE requirements are in this range...

Vacuums to 27" Hg.
Pressures to 20 psig.
Displacement: 3.6 to 7.2 c.f.m.



MODEL K. 3.6 c.f.m. ½ hp. 13½" long—12" wide—7" high
MODEL K3. 7.2 c.f.m. ½ hp. 16" long—15" wide—9" high

...save space — simplify mounting—eliminate troubles —improve operation with

LEIMAN INTEGRAL ROTARY AIR PUMP and MOTOR

AUTOMATIC WING ADJUSTER

Patented Leiman feature adjusts automatically, pushes steel wings into contact with cylinder wall, assures constant seal, prevents wings from sticking or binding.

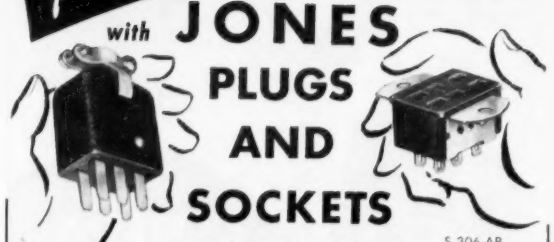
FEATURES INCLUDE: Steel wings for long wear—automatic wing adjuster—ball bearings—automatic oiler—fan cooling—noiseless operation—automatic thermal overload protection for motor—inlet filter and outlet separator—oil-free air. Plus—famous Leiman dependability and lifetime performance.

Write for 12-page catalog giving details

LEIMAN BROS., Inc.
167 Christie St., Newark 5, N. J.

For more details circle NED-360 E7 on enclosed inquiry slip

INSURE *Proven Quality* with JONES PLUGS AND SOCKETS



P-306-CCT Plug, Cable Clamp in Cap.

Jones Series 300 illustrated. Small Plugs & Sockets for 1001 Uses. Cap or panel mounting.

S-306-AB Socket with Angle Brackets.

- Knife-switch socket contacts phosphor bronze, cadmium plated.
- Bar type Plug contacts brass, cadmium plated, with cross section of 5/32" by 3/64".
- Insulation molded bakelite.
- All Plugs and Sockets polarized.
- Metal Caps, with formed fibre linings.
- Made in two to 33 contacts.
- For 45 volts, 5 amperes. Efficient at much higher ratings where circuit characteristics permit.

Ask for Jones Catalog No. 21 showing complete line of Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write or wire today.

Jones **HOWARD B. JONES DIVISION**
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

For more details circle NED-361 E7 on enclosed inquiry slip

FASTER... SURER... INSPECTION

PRICES START FROM $10.95

Hundreds of uses, FLASH-O-LENS spotlights area it magnifies, speeds inspection, adds accuracy. Battery, plug-in models.

WRITE TODAY for literature showing uses, types, prices

PIKE REG. U. S. PAT. OFF.

Established 1927

E. W. PIKE & COMPANY

498 North Avenue Elizabeth 3, N. J.

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NEW TOLEDO No. 22 PIPE VISE
⅛ to 2½" CAPACITY

Something new in quality, low cost pipe vises! Strong, sturdy frame, but the No. 22 weighs only 12 lbs. . . . husky vise screw for long wear . . . yoke for right or left hand use . . . hardened steel jaws . . . large bolting area . . . available soon in ⅛ to 4½". Write for catalog. Watch for TOLEDO'S new vise stand with integral yoke or chain vise.

Quality T Checked

BUILDERS OF THE WORLD'S FINEST PIPE TOOLS
TOLEDO®
PIPE THREADERS • PIPE WRENCHES • PIPE MACHINES

The Toledo Pipe Threading Machine Co.
Toledo 4, Ohio

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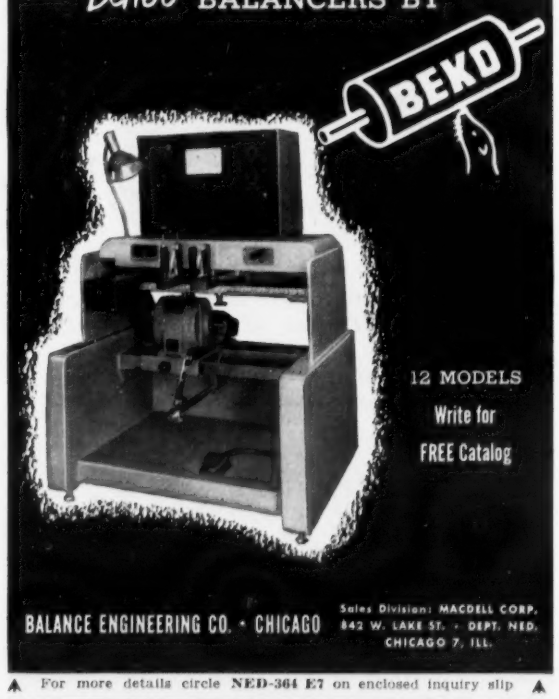
Best PRODUCTION STANDARDS with Better BALANCERS BY



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FREE Catalog

BALANCE ENGINEERING CO. • CHICAGO

Sales Division: MACDELL CORP.
842 W. LAKE ST. • DEPT. NED.
CHICAGO 7, ILL.

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HERE'S THE MOST COMPLETE NOZZLE CATALOG EVER PUBLISHED

Whatever your nozzle problem, look first in this new catalog by Spraco. Here is complete information on a wide range of nozzle types and sizes as well as general spraying coverage data.

Send for your **FREE** *copy today . . .*

SPRAY
Engineering Company
106 Central Street, Somerville 45, Mass.

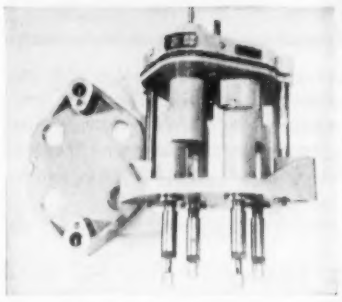
▲ For more details circle NED-365 E7 on enclosed inquiry slip ▲

RECORDING TAPE CANS
shield magnetic tape from damage

Valuable military or machinery - guiding master magnetic tapes can be effectively protected in Fernetic Co-Netic shielded containers. Similar protection can be given delicate instruments during transport. Container provides simultaneous high and low intensity shielding, as well as high and low frequency shielding, the strength of which remains undiminished indefinitely. Shielding does not retain residual magnetism and cannot be lessened by shock, vibration or other disturbance during handling or usage. Containers are made in round or rectangular shapes and many sizes, and have strong rib construction. Made by **Perfection Mica Co.**, Magnetic Shield Div., 20 N. Wacker Dr., Chicago 6, Ill.

▲ For more details circle NED-366 E7 on enclosed inquiry slip ▲

MULTIPLE SPINDLE HEAD
taps several parts simultaneously



Multiple lead screw tapping of several parts with similar but varied hole patterns can be done with this adjustable multiple spindle head. Simple templates locate and lock spindles in position. Normal spindle travel of 1½ in. is controlled by rotary limit switch operated through shaft in the head. This prevents damage to head in event of excessive spindle travel. Another feature guards against damage resulting from absence of previously drilled holes for taps to enter. Photo shows two holders retracted with other two in normal operating position. Made by **Thriftmaster Products Corp.**, 1010A N. Plum St., Lancaster, Pa.

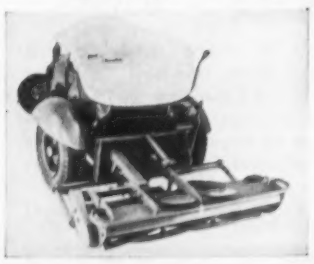
▲ For more details circle NED-367 E7 on enclosed inquiry slip ▲

SHALLOW-DEPTH SWITCH
for radar and missile equipment

Series SH switching unit which measures 2¼ in. square by only 27/32-in. deep is designed for airborne, radar and missile equipment where shallow depth is vitally important. Additional decks can be added with increase in depth of only ¾-in. per deck. Units adapt to any standard single-pole-per-deck and two-pole-per-deck designs with up to 15 positions shorting per pole, or eight positions nonshorting per pole. Switch panel can be either phenolic or silicone glass fiber. All parts are plated to withstand 200-hour salt spray test. Rotors, contacts and slip rings are silver alloy, while shaft is stainless steel. Made by **Daven Co.**, Dept. NED, 530 W. Mt. Pleasant Ave., Livingston, N. J.

▲ For more details circle NED-368 E7 on enclosed inquiry slip ▲

RIDING TYPE MOWER
optional reels cut 66-in. swath



Power applied independently to each wheel enables this riding type lawn mower to turn square corners. Called the Square-Turn PoweRide, it will cut a 30-in. path with its front reel only, or a 66-in. swath with two wing units added. Choice of 3.3 and 6.8-hp engines is given. Transmission performs functions of a clutch, differential, brake, forward and reverse drive and power steering. Parking brake is automatically applied in neutral. Mower has a glass fiber-plastic seat and will be available with a line of attachments. Made by **Jari Products, Inc.**, Dept. NED, 2990 Pillsbury Ave. S., Minneapolis 8, Minn.

▲ For more details circle NED-369 E7 on enclosed inquiry slip ▲

FLEX-A-FOAM DUST MASKS

Dust protection your workers will welcome and wear *in even the HOTTEST weather*

★ **Ideal for Hot Weather** Filter's porous action absorbs and actually exhales body heat.

★ Flex-A-Foam's lightweight (only 1 ounce complete) makes it cool and comfortable to wear — not hot and cumbersome like old-fashioned respirators.

★ Flex-A-Foam is easier to breathe and talk through than an ordinary pocket handkerchief — does away with that stuffy, smothered feeling.

Your best *Ounce of Protection* against Irritating Dust

UNMATCHED ECONOMY

Flex-A-Foam is the lowest priced *quality* respirator on the market today.

Flex-A-Foam's washable filter outlasts throw-away type by more than 100 to 1.

Fewer filter replacements with Flex-A-Foam Dust Masks mean fewer lost production hours.

Sample only $1.45 postpaid (Industrial price only)

FLEX-A-FOAM® DUST MASK

FLEXO PRODUCTS, INC. • Cleveland 13, Ohio

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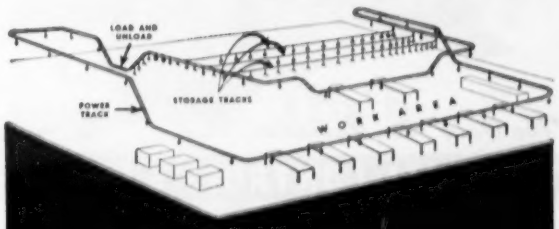
REDUCE OVERHEAD COSTS—INCREASE PRODUCTION EFFICIENCY...



with R-W

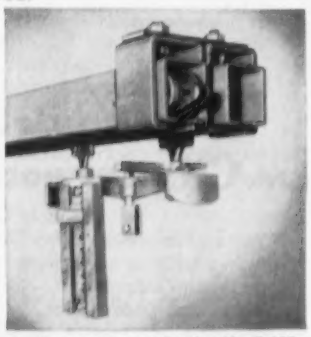
TWIN-TRAK
OVERHEAD *automatic* DISPATCH SYSTEMS

ADVANTAGES

- Provides trouble-free, automotive-selective control over product movement through entire plant.
- Economical to install . . . extremely flexible . . . quickly and economically revised or modified to meet your changing needs or future expansion plans.
- Ideal for conveying and dispatching products in multiple story buildings.

The unique R-W "TWIN-TRAK" Automatic Dispatch Systems offer a new efficient and economical method of handling materials. This system not only moves materials from one point to another but will automatically and economically transfer products to a predetermined work station or storage area. Storage bank may be installed in the "free" area under the building trusses and valuable floor space can be released for production operations. Products may be automatically moved from the storage banks to work stations as they are required.

An R-W "TWIN-TRAK" System consists of one or more power tracks and as many storage or free tracks as desired. Available with efficient, economical manual or electronic selective controls designed to effectively meet your specific requirements. Call your local R-W Conveying-Engineer today . . . let him show you how an R-W "TWIN-TRAK" System will reduce operating and overhead costs, increase production efficiency and provide added profits.



WRITE TODAY for complete information . . . request Catalog No. F-192.

Richards-Wilcox
MANUFACTURING COMPANY
"MATERIAL HANDLING DIVISION"

435 W. THIRD STREET, AURORA, ILLINOIS • Branches in Principal Cities

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NEW NYLON KOOLSHIELD

POSITIVE PROTECTION FROM HOT REFLECTOR When Using 100-Watt Lamp

A marvelous new accessory that snaps over reflector to guard against burning.
$1.02 ea. in standard pkg. of 4

Fits all old and new model Localites with half shade reflector

FOSTORIA LOCALITES

Finest Seeing Tools Ever Designed for Machine Tools, Assembly, Inspection

Frictional arm and collar disc joints give flexibility of a thousand positions to direct light exactly as wanted. Rugged construction with heavy duty industrial socket Levolier switch and universal base. Millions in use for fast, accurate, safe seeing.

MODEL 55-BH-701 **$7.90** EACH In Std. Pkg. of 4

WRITE for complete catalog of Localite Models for every industrial use.

THE FOSTORIA PRESSED STEEL CORPORATION, FOSTORIA, OHIO

Localites are available through wholesalers everywhere

LOCALITE fostoria for Light ON the Job

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LOW COST AIR CYLINDER

The Only Air Cylinder

WITH ALL CONTROLS BUILT-IN

This air cylinder is a complete, "packaged" power unit. Electrical switching controls (1), four-way directional valve (2), and independent speed control valves (3), are all a built-in part of the unit. Only one air connection required yet unit is full double-acting. So revolutionary in design it is known as the Bellows Air Motor. Available in five bore sizes: 1¼", 1¾", 2½", 3⅝" and 4½". Virtually any stroke length. Optional choice of mechanical built-in valve controls.

Write today for free 4-color Booklet

Address Dept. NED-557. Ask for Bulletin BM-25. In Canada, write Bellows Pneumatic Products of Canada, Ltd., Toronto, Ontario.

739-B

The Bellows Co.
AKRON 9, OHIO

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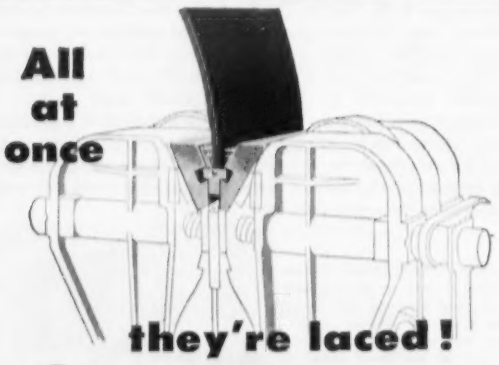
All at once they're laced!



with Clipper HOOKS and LACERS

You can lace belts up to 12 inches wide in one operation with Clipper Belt Hooks and Lacers. For complete information on this time-saving method, send today for your free copy of Bulletin No. 157.

Clipper BELT LACER COMPANY

976 Front Ave., N. W., Grand Rapids, Michigan

Ask your Industrial Distributor for Clipper Products

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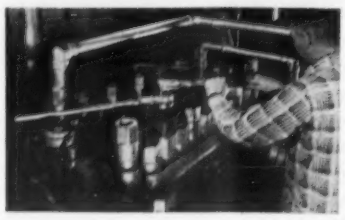
WRENCH BOOSTER provides 4:1 mechanical advantage



Used with standard sockets and wrenches, model TD Wrench Booster provides a 4-to-1 mechanical advantage for easy loosening and tightening of heavy threaded parts. Unit consists of a set of planetary gears built into a single concentric tool head and a removable reaction bar. It can deliver torques up to 2000 lb-ft. Models 750 and 1000 are designed for socket-drives of ¾ and 1-in., respectively. Balanced T-wrench effect is obtained by positioning wrench handle opposite reaction bar. Made by **X-4 Corp.**, Acton, Mass.

▲ For more details circle NED-375 E7 on enclosed inquiry slip ▲

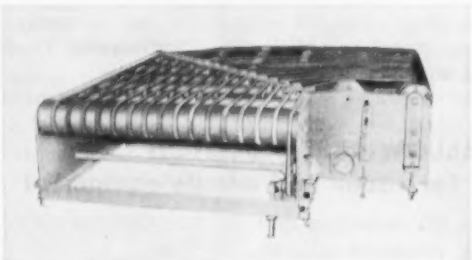
DRAFTING SCALES in architect and engineer types

Improved 12 - in. architects' and engineers' Scalemaster scales have metal reinforcements on each end to give them rigidity. All scales are exposed to full view, and slotted openings facilitate use. The architects' Scalemaster has 14 full-view scales, while the engineers' Scalemaster has nine scales. Made by **C-Thru Ruler Co.**, 827 Windsor St., Hartford, Conn.

▲ For more details circle NED-376 E7 on enclosed inquiry slip ▲

BELT CONVEYOR TURN moves parts around 90-degree corner

Conveyed materials can be moved around 90-degree corners as easily as in a straight line with this Stewart-Turn. Series of narrow belts running in



grooved pulleys meet to provide an angular direction of flow. Belts are banked for constant contact with material, and guides prevent side shear as material changes direction. Differential in speed between the belts produces the positive turning action. Small as well as large or long articles can be carried by the turn. Made by **Stewart-Glapat Corp.**, 1639-A Moxahala Ave., Zanesville, O.

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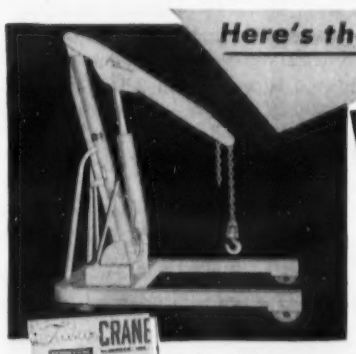
Here's the most



VERSATILE CRANE you can buy!

THIS BROCHURE describes the full line, complete with all specifications.

Available in seven models, with capacities from one-half to three tons. Every Tubarcrane has a three-position built-in extension boom—no extras to buy! Pumping effort is easily adjustable. Tilt-back mast provides more area for lifting bulky loads. Write for literature today!

Tubar CRANE

Manufactured by UHRDEN, INC. • DENNISON, OHIO

Jobber Territories Available

Also request literature on Tubar Hand Trucks, Platform Trucks, Tubarlifts

U-255-105

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ENTIRELY NEW LEVER PULLER

— positive friction brake holds load in any position

You have to see a Peerless Pal to appreciate its compactness. The ¼-ton unit is packaged in an attractive metal box with carrying handle. The container is also capable of holding a capacity-doubling snatch block. The ½-ton unit is only slightly larger.

Lift a load, lower a load, drag a load smoothly with the entirely new Peerless Pal Lever Puller. A true friction brake holds it safely in any position. The Peerless Pal is so light and compact that it can be carried in the palm of your hand. Fully enclosed construction, too, makes it ideal for use in shops, on trucks, on farms, in service stations, on the highway, around boats. Write for Bulletin P-40 today.

THE HARRINGTON COMPANY
Plymouth Meeting 16, Pa.

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For Proper, Low-Cost Replacement and Maintenance

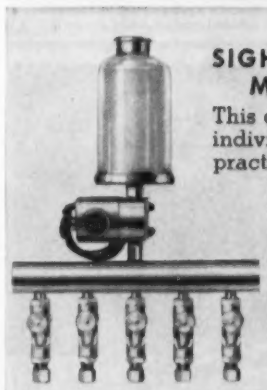
GITS

World's Largest Selection of Low-Cost Lubricating Devices

LUBRIKIT... An assortment of 95 oil cups of 29 different types. Gits sales records show these oilers are most used for replacement and maintenance. Contents of each separate bin are clearly described on inside cover.

Special Introductory Price JUST $14.95 F.O.B. FACTORY

Satisfaction or Your Money Back



SIGHT GRAVITY FEED MULTIPLE OILERS

This one unit replaces 3 to 8 individual oilers. Maximum practicality in a small central lubrication system. Positive cut-off during idle periods. Individual vibration-proof needle valve adjustments. With solenoid control (Illustrated): Style MDS—No. 4685-A. Without solenoid: Style MD.

Too much machine "down-time"? Too much time wasted in servicing your machinery? Perhaps some old, worn lubricating devices need replacement. Maybe a different, more modern device will do the job more efficiently. Whenever you replace, specify GITS Lubricating Devices—the widest selection available anywhere, right in stock. The items pictured above are only a few of our many thousands of lubricating devices. Send NOW for your free Catalog.

GITS BROS. MFG. CO.

The Standard For Industry For Almost Half A Century

1833 South Kilbourn Avenue
Chicago 23, Illinois

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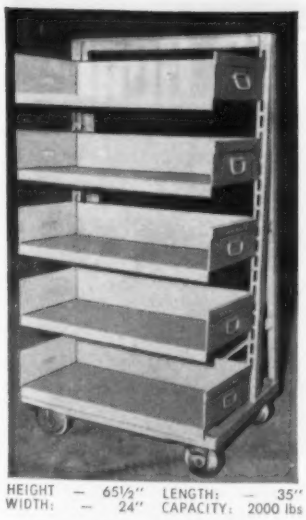


VER-T-RACK

- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- ELIMINATES MATERAL DAMAGE
- REDUCES WORKER FATIGUE
- GREATER SAFETY FACTOR
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT — 65½" LENGTH: — 35"
WIDTH: — 24" CAPACITY: 2000 lbs

Equipped with 6" roller bearing steel wheel casters

VER-T-RACK can be handled with lift truck. Trays are adjustable on **VER-T-RACK**

ONLY **$49.50** Plus $6.60 for each tray open as shown or semi-closed

Slightly higher west of the Rockies Write today for descriptive literature

THE Vince BASNIK COMPANY
MATERIAL HANDLING DIVISION
• 2020 CENTER STREET • CLEVELAND 13, OHIO

For more details circle NED-381 E7 on enclosed inquiry slip

HAMILTON

EFFICIENT HANDLING AND STORAGE AT LOW COST

Hamilton Roll-N-Stor Lift Truck Systems are ideal for economical, efficient warehousing. They speed load transfer—facilitate storage of merchandise and materials. Roll-N-Stor Skid Trucks feature unique 3-rail construction, two side rails and one center—platform can't bend or sag. Side rails are flush with edge, deck boards inset for a smooth, flat top surface. Roll-N-Stor Skid Trucks are capacity rated to 2500 lbs.

Write today for the Hamilton Catalog illustrating and describing hundreds of floor trucks for every purpose: lift truck systems, platform trucks, box trucks, shelf and tray trucks, dollies, lumber buggies —and special trucks for many uses.

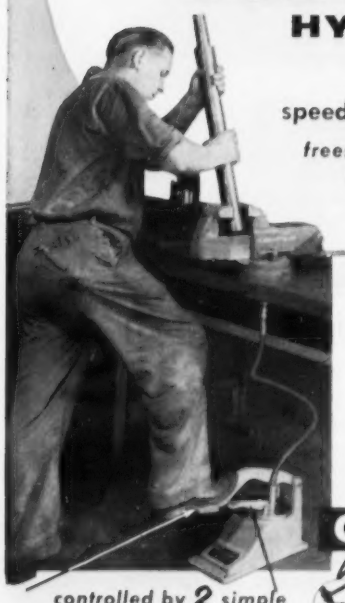
THE HAMILTON CASTER & MFG. CO.
1659 Dixie Highway • Hamilton, Ohio

For more details circle NED-382 E7 on enclosed inquiry slip

COLUMBIAN HYDRAULIC VISE

speeds up production!

frees operator's hands for essential work



Every plant, machine shop, garage . . . every metal working company can speed production, save time and manpower, reduce costs with Columbian Hydraulic Vises.

AA-2542

For full details, write for Bulletin LL-2029

COLUMBIAN Vises The Columbian Vise & Mfg. Co. Cleveland 4, Ohio

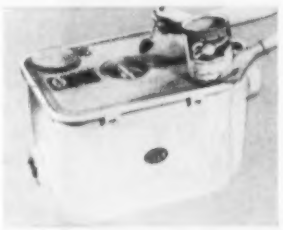
Sledge Tested guaranteed unbreakable

controlled by 2 simple foot pedals!

SOLD EXCLUSIVELY THROUGH DISTRIBUTORS

For more details circle NED-383 E7 on enclosed inquiry slip

GREASE INTERCEPTOR
automatic unit is self-cleaning



Periodic placing of Blue Label Enzymatic crystals in this automatic self-cleaning grease interceptor eliminates the need for manual cleaning. The enzyme concentrate is poured into the Enzymatic Greaseptor and rapidly converts accumulated grease into water soluble compounds by biochemical reaction. Compounds are automatically flushed away with no possibility of damage to the plumbing system or of grease redepositing elsewhere. Variety of models and sizes is offered. Made by **Zurn Industries, Inc.**, J. A. Zurn Mfg. Div., Dept. NE, Erie, Pa.

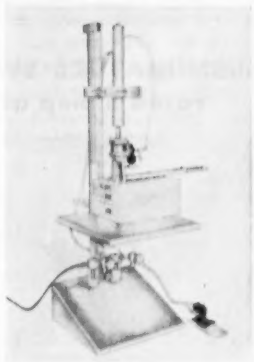
For more details circle NED-384 E7 on enclosed inquiry slip

SEAMLESS FINGER GUARD
made of plastic and cotton

Safety with relatively free finger movement is afforded by this seamless finger guard. Made of plastic and fully lined with snug-fitting absorbent cotton, guards can be used in assembly, electrical spotting and handling of small parts. They are made on both men's and women's sizes. Made by **Advance Glove Mfg. Co.**, 991 W. Lafayette Blvd., Detroit 26, Mich.

For more details circle NED-385 E7 on enclosed inquiry slip

CONTAINER STAPLER
drives 2400-3600 staples per hour



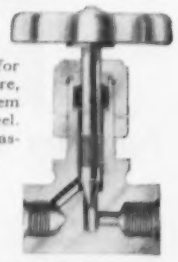
Any style or size of corrugated or fiber board box can be stapled top or bottom with model TAP-A pneumatic stapler which operates on minimum of 60 psi. From 2400 to 3600 staples can be driven per hour, depending on type of carton being handled. Design simplicity, with only six moving units in the head; stainless steel chassis construction; and hard chrome plated wear surfaces are featured. Table height can be varied from 20½ to 29⅜ in. Solid steel, roller conveyor or caster-top tables are available. Head can be rotated 90 degrees to drive staple parallel to carton edge, instead of across center seam. Made by **Container Stapling Corp.**, 310 N. Park Ave., Herrin, Ill.

For more details circle NED-386 E7 on enclosed inquiry slip

REPUBLIC
VALVES
INDUSTRIAL • CHEMICAL • AIRCRAFT

10,000 psi WORKING PRESSURE FORGED BODY

One-piece, stainless steel, forged body and stem guide, with no brazing or welding—*can't* leak or come apart. Has many uses in water, gas, oil, and vacuum service.



Proofed at 25,000 psi for 10,000 psi working pressure, to 200° F. Semi-needle stem of *hardened* stainless steel. Available with graphited asbestos or Teflon packing.

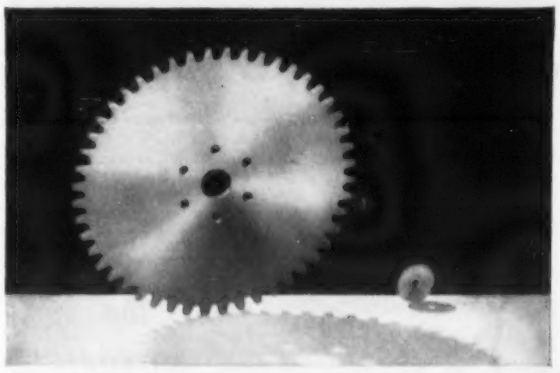
Easy grip handle. Panel mounting. Female pipe connections, sizes ¼" up to ½".

Ask for new catalog No. 654, showing entire line.

Distributors in principal cities coast to coast.

RM REPUBLIC MANUFACTURING CO.
15655 BROOKPARK ROAD • CLEVELAND 11, OHIO

For more details circle NED-387 E7 on enclosed inquiry slip



WINZELER NOW *STAMPS* BETTER GEARING FROM 8 TO 120 DP!

You can now get sizes ranging from 8 to *120 dp!* No matter what the size, or whether you need thousands or millions, you can expect the same remarkable accuracy and top quality in *every* Stamped Gear we ship. Savings, up to 60%, are common. Ideas, suggestions, low cost estimates without obligation. Write TODAY!

SEND FOR *4-page Stamped Gear folder containing valuable Stamped Gear data and tables.*

WINZELER Stamped Gears

WINZELER MANUFACTURING & TOOL CO.
7355 W. WILSON AVENUE • CHICAGO 31, ILLINOIS

For more details circle NED-388 E7 on enclosed inquiry slip

Thor discovers how to muffle air motor noise

75% quieter!

NEW THOR Silentair SCREWDRIVERS

Less noise on your lines means more production, better employee relations and morale

YES, here is 75% less noise on your production line . . . the great new Thor "Silentair" Screwdrivers! A steel sleeve with 24 perforations is attached over the exhaust of any of these Thor No. 2 series straight screwdrivers. This sleeve, with its acoustical pattern of holes, breaks up and absorbs the sound of the air motor.

Hear the difference between standard air driven screwdrivers and Thor's new "Silentair." Try one. Then try the other. Then you'll know what silent air power can mean in your plant.

"Silentair" is optional equipment on Thor air screwdrivers—the most powerful available to industry. For a demonstration, contact your nearest Thor factory branch listed below, or write Thor Power Tool Co., Prudential Plaza, Chicago 1, Ill.

THOR POWER TOOL COMPANY
Chicago, Illinois

Atlanta • Birmingham • Boston • Buffalo • Chicago • Cincinnati • Cleveland • Denver • Detroit • Houston • Indianapolis • Kansas City, Mo. • Los Angeles • Milwaukee • Newark • Long Island City, N.Y. • Philadelphia • Pittsburgh • Richmond • St. Louis • San Francisco • Seattle • Toronto, Canada • Export Division, New York City

Thor PORTABLE POWER TOOLS

For more details circle NED-389 E7 on enclosed inquiry slip

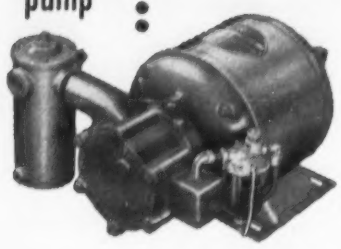
NEED VACUUM?

use the COMPACT pump

The Motoair Pump is built integral with its own motor to take the least amount of space and to avoid extra assembly necessary with separate drive.

Automatic lubrication complete with re-circulating system and visible oil reservoir is a feature of

the MOTOAIR®



Instantaneous suction and positive action is provided with the Motoair, being directly driven at the same rpm. as the motor.

ASK FOR CATALOG with performance data on various sizes of pumps. Oil-less models also available.

824

NEW JERSEY MACHINE Corporation

FACTORY SALES AND SERVICE BRANCHES CHICAGO CINCINNATI LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N. J.

For more details circle NED-390 E7 on enclosed inquiry slip

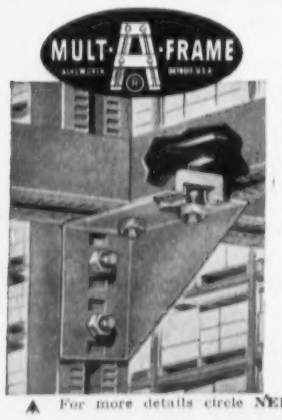
NEW MULT-A-RACK CATALOG

SOLVES RACK PROBLEMS AT A GLANCE!

Now 1800 *standard* Mult-A-Rack designs combine custom built versatility with production line savings. Here's all you do: just glance at the easy to read Mult-A-Rack catalog chart; identify your pallet type; check your load requirement; select rack size and order by number.

No skilled labor is needed to erect Mult-A-Racks. The only tool needed is a hand wrench. Rack areas change from time to time? Takes only a few minutes to disassemble and rebuild Mult-A-Racks. All parts are completely re-usable.

Like to learn more about how pre-engineered Mult-A-Racks save you time and money? Then send today for your free copy of the new Mult-A-Rack catalog — "Pre-engineered and Expandable Racks" — showing 1800 standard different rack designs.



See the secret of Mult-A-Frame strength: Exclusive serrated edges that clamp together to prevent jackknifing. Note too the unique Mult-A-Frame spring T-bolt which holds fittings in place until ready for wrench tightening.

MULT-A-FRAME DIVISION
Ainsworth Manufacturing Corporation
1471 East Atwater St., Detroit 7, Mich.

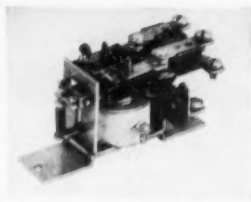
For more details circle NED-391 E7 on enclosed inquiry slip

PORTABLE AIR NAILER
speed is 350 cycles per minute

Only two moving internal parts are incorporated in the Cyclamatic portable automatic air nailing tool for packaging and manufacturing use. Its piston is automatically returned by air without loss of pressure to the atmosphere. The 5-lb tool can be operated at rate of 350 cycles per minute. It feeds and drives Cal-Nails up to 6-penny (2-in.) size with single stroke in hardwoods, or Calwire industrial staples up to 14-gage (1⅝ in.). Made by **California Wire Products Co.,** Dept. NE, 326-328 N. E. Third Ave., Visalia, Calif.

For more details circle NED-392 E7 on enclosed inquiry slip

GENERAL PURPOSE RELAY
6-230 v ac or 6-115-v dc voltages



Small size and compactness, choice of metal strap or Bakelite mounting base, and choice of 6 to 230 v ac, or 6 to 115-v dc coil voltages adapt this industrial relay to a variety of applications. Contacts, rated 20 amp, 115 v 60-cycle ac or 24 v dc, are single and double-pole, single and double-throw. Relay is used in motor control circuits; to start small motors or operate signalling devices; and in circuits controlled by thermostats, pressure switches, float switch, photoelectric devices and similar devices. Made by **Wheelock Signals, Inc.,** Dept. NED, Long Branch, N. J.

For more details circle NED-393 E7 on enclosed inquiry slip

SUBMINIATURE SWITCHES
rated 5 amp at 28 v dc, 115-v ac

So small are these 5000 series plastic body precision switches, that nine of them could fit into 1 cu in. of space. No. 5300 switches measure only 25/32 x 17/32 x ¼ in. Two No. 5302 switches can be mounted, activator to activator, and operated in a 1-in. diameter tube. Switches can be ganged together in infinite numbers to perform multiple switching functions. They can have single-pole normally-open, single-pole normally-closed or single-pole double-throw contact arrangements. Rated 5 amp resistive at 28 v dc or 115-v ac, they operate in −65 to 250° F range. Made by **Haydon Switch, Inc.,** Dept. N, 536 S. Leonard St., Waterbury 20, Conn.

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Free FILTER Guide

New Filtration Bulletin describes 6 major automatic filtering processes for industrial application

2 to 1000 G.P.M. capacities are listed for coolants, cutting oils, paint spray booth water, wire drawing oils, quenching oils, edible oils and juices, optical blank grinding coolants, solvents and cleaners, aluminum foil rolling oils, air conditioning wash water, atomic and nuclear applications.

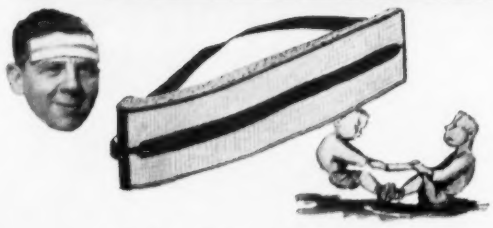
Delpark *Write today for your copy of Filtration for Industry* —First in Filtration Advancement

INDUSTRIAL FILTRATION COMPANY
14 INDUSTRIAL AVE. LEBANON, INDIANA

For more details circle NED-396 E7 on enclosed inquiry slip

Send for **FREE** sample
The Nation's Sweatband

DRYBROW



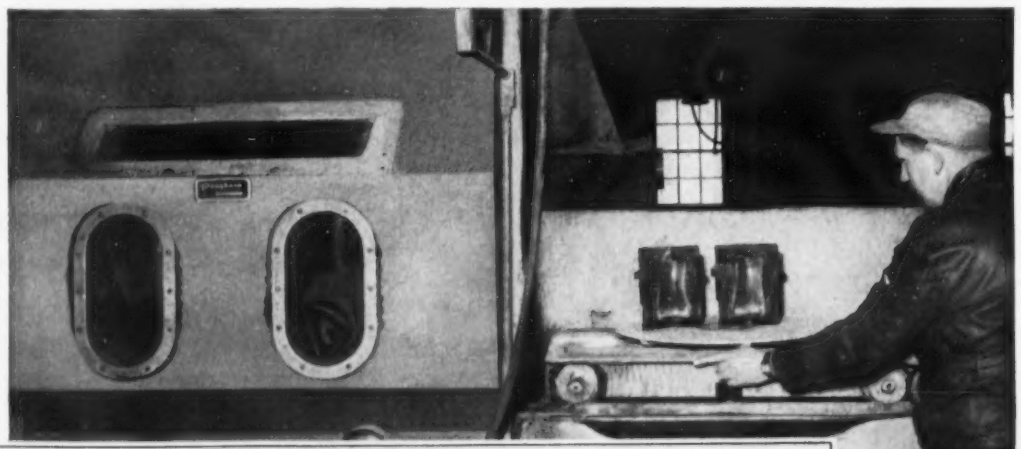
Only REINFORCED Dupont Cellulose Sponge SWEATBAND on the market

List price, in boxes of 25:
$4.00 per box, 1 to 39 boxes
$3.50 per box, 40 or more boxes

INDUSTRIAL SAFETY EQUIPMENT ASSOCIATION

AMERICAN ALLSAFE CO., INC.
1247 NIAGARA ST. BUFFALO 13, N. Y.

For more details circle NED-397 E7 on enclosed inquiry slip



Pangborn Hydro-Finish cut cleaning time 50% in this plant
Paid for itself in only six months

Pangborn Hydro-Finish really paid off for this leading glass manufacturer. Cleaning quality increased moldlife 10% to 15% and total cleaning and polishing time was cut in half! The resultant savings paid for the machine in six months and represented a substantial weekly sum thereafter.

USE PANGBORN HYDRO-FINISH FOR:
Deburring • Surface finishing • Finishing threaded sections • Improving cutting tool life • Maintaining dies and molds • Removing grinding lines • Removing heat treat scale • Preparing surfaces

Today, through new design and use of air jet sluriators, Pangborn Hydro-Finish costs less originally, costs less to maintain and gives you easier handling and added efficiency. Write for Bulletin 1403 to PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md.

Pangborn
BLAST CLEANS CHEAPER

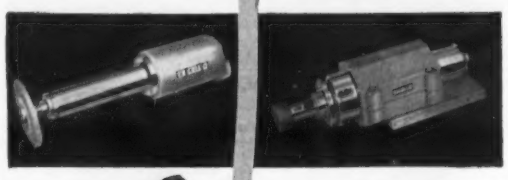
For more details circle NED-395 E7 on enclosed inquiry slip

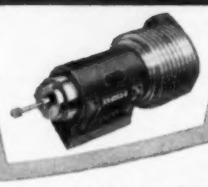
Ex-Cell-O Spindles

GIVE YOU PRECISION AND PROFIT FROM YOUR GRINDERS!

Select yours from hundreds of Ex-Cell-O precision grinding spindles—all standard models. Motorized or belt-driven units—designed to fit the job. There's full information in the 80-page Ex-Cell-O Spindle Catalog. Write for it!

XLO
EX-CELL-O for PRECISION





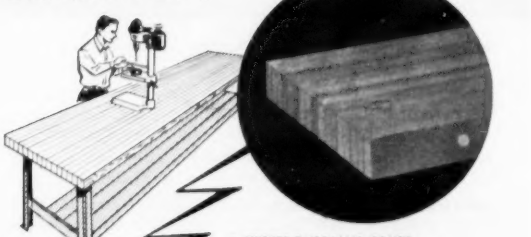
EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

56-9

For more details circle NED-398 E7 on enclosed inquiry slip

LAMINATED BENCH TOPS

● NOTHING—BUT NOTHING TOPS A TOLCO BENCH TOP!



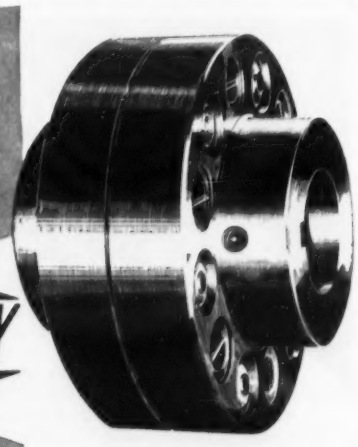
● ELECTRONICALLY GLUED
● MORE LAMINATIONS PER FOOT
● MOISTURE RESISTANT

Tolco Northern Maple, laminated assembly bench tops are built by the originators of electronic gluing. Skilled craftsmen blend their talents with the finest quality lumber available to bring you the supreme product in the laminated bench and table top industry. Tolco tops have more laminations per board foot than any other giving them superior strength and resistance to wear and tear. Special processing makes Tolco tops especially resistant to moisture and warpage. Write today for full color catalog illustrating and describing this outstanding product. Prices on request.

THE TOLERTON COMPANY
P. O. Box K 658 Alliance, Ohio
Established 1894

For more details circle NED-399 E7 on enclosed inquiry slip

IT PAYS TO SPECIFY



AJAX

flexible couplings

when you order new equipment

The finest equipment deserves the finest couplings,—safeguard against destructive wear due to unavoidable misalignment. Always specify AJAX FLEXIBLE COUPLINGS when you order. Standard of the industry for over 30 years.

AJAX FLEXIBLE COUPLING CO. Inc.
WESTFIELD, N. Y.

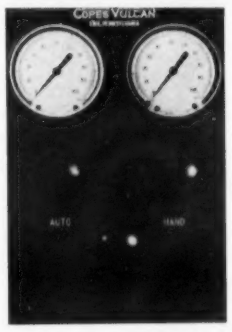
For more details circle NED-400 E7 on enclosed inquiry slip

ECCENTRIC FIXTURE KEY
aligns holes and slots rapidly

Zero concentricity for lathe fixtures mounted on slotted face plates is rapidly obtained by use of this eccentric fixture key. It quickly aligns holes and slots and corrects any misalignment of face plates and milling fixtures up to 1/16-in. Interchangeable keys make fixtures adaptable to any machine with standard width key slots. After drilling, the key is pressed into the fixture from the bottom, then mounted on the machine. An Allen lock screw is loosened and the eccentric is adjusted by a screwdriver to the correct alignment. Fixture is then clamped in place and the lock screw tightened to complete the operation. Keys remain in fixed alignment until removed or readjusted for another machine. Made by **Ace Drill Bushing Co.,** Dept. 20, 5407 Fountain Ave., Los Angeles, Calif.

For more details circle NED-401 E7 on enclosed inquiry slip

PNEUMATIC CONTROL STATIONS
for automatic to manual transfer



"Bumpless" transfer from automatic to manual positions or vice versa without process disturbance is attained by auto - manual pneumatic control loading stations. Nonseal type units bring about transfer by matching gage pointers and turning an adjustment knob. Pressure range is 3 to 15 psi, with gages scaled from 0 to 100 per cent. Standard and miniature devices are available. Stations are available for such functions as loading and transfer, selector biasing, ratio, remote set-auto manual, cascade-auto manual, cascade-biasing, cascade-ratio, manual loading and bias-loading. Made by **Blaw-Knox Co.,** Copes-Vulcan Div., 941 W. 26th St., Erie 4, Pa.

For more details circle NED-402 E7 on enclosed inquiry slip

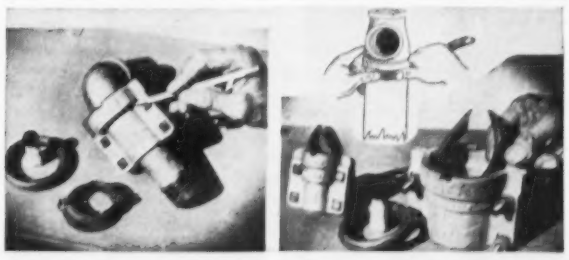
FLUID PRESSURE CELLS
in ±15, 30 and 60-psi capacities

One of a series of SR-4 strain gage units which measure fluid pressures, improved FMM pressure cell is offered with ±15, 30 and 60 psi differential pressure capacities. Line pressures range up to 90 psi. Output is increased to 3 mv/v and linearity improved to within 1/10 per cent full scale. Completely sealed and requiring low voltage, unit can be installed in hazardous environments. It is widely applicable in industrial measurement as well as for wind tunnel work. Used with analog to digital scanning equipment, cell provides the fast response needed to process masses of data in short periods of time. Announced by **Baldwin-Lima-Hamilton Corp.,** Electronics & Instrumentation Div., Dept. HN-99, 42 Fourth St., Waltham, Mass.

For more details circle NED-403 E7 on enclosed inquiry slip

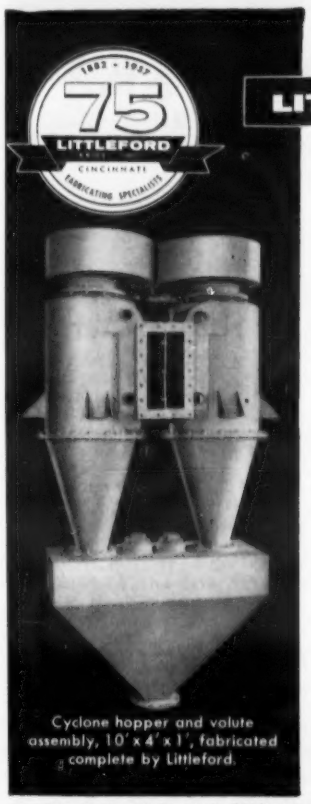
SEALING PIPE CLAMP
stops leaks at pipe joints

Leaks in water and other type pipes at the joints can be stopped by this flanged clamp with a neoprene ring seal. It clamps tightly on both threaded pipe



end and the fitting, strengthening the joint. The soft neoprene ring is squeezed into the threads. Clamp is made of cast aluminum in five sizes from ¾ to 2 in. to fit standard malleable fittings, wrought and steel pipe and 85 per cent copper pipe and screwed brass fittings. Made by **Burlis Products Co.,** Dept. NE, 1619 Bergen St., Brooklyn 13, N. Y.

For more details circle NED-404 E7 on enclosed inquiry slip



Cyclone hopper and volute assembly, 10' x 4' x 1', fabricated complete by Littleford.

LITTLEFORD

layout
shearing
punching
bending
flame cutting
assembly
welding
stress relieving
sand blasting
machining

Littleford's complete, top quality fabricating saves your time and facilities for your own specialty. Send us your blueprints for estimates on your requirements.

LITTLEFORD BROS., inc.
Dept. LB-200,
453 E. Pearl St.,
Cincinnati 2, Ohio

For more details circle NED-405 E7 on enclosed inquiry slip

New Push!

Here is another use for the versatile new-model HA "PAYLOADER" tractor-shovel . . . doing a job which formerly required *two* towing tractors — and *two* operators . . . and doing it better, at only a fraction of the cost. It shifts kiln cars of unfired brick around the air-dry room and feeds them to the kilns . . . handles trains of 4 to 6 loaded cars (up to 42,000 lb.). Its Torque-converter drive gives smooth, even starts and a steady push that reduces damage to the bricks.

Regular equipment for the business end of this model HA "PAYLOADER" tractor-shovel is an 18 cu. ft. bucket — not a lift-fork attachment — and it can dig more, carry more and deliver more tons of bulk material than heavier tractor-shovels with larger engines. Tine-forks, Sweeper and other attachments are also available for this unusual tractor-shovel to further increase its usefulness. Larger "PAYLOADER" models up to 2¼ cu. yd. payload capacity are available for every need indoors or outdoors — made by the pioneer and leader in tractor-shovel manufacture. There's a nearby Distributor ready to give you full information. The Frank G. Hough Co., 746 Sunnyside Ave., Libertyville, Ill. 73

PAYLOADER
THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.

For more details circle NED-406 E7 on enclosed inquiry slip

FORD
ROTARY TOOLS

WHY THEY DO YOUR JOB BETTER

All Ford H.S.S. and Carbide cutters are *precision machine ground* . . . which insures that tooth spacing is uniform and relief angles are constant on each tool. Ford files are hand cut by precision craftsmen with years of experience. On your job, that means more parts per grind. So you save labor on grinding and tool changing. You save on replacements. You save on downtime. What's more, there's less time per part, more parts per hour. In 7 shapes . . . cutting head sizes from 1/8" to 1" diameter, up to 1 3/8" in length. All standard, and *available* in H.S.S. or solid carbide.

NEW CATALOG 601 FREE AND LATEST PRICES . . . WRITE TODAY

Rotary FORD Tools

M. A. FORD MFG. CO., INC.
721 W. RIVER STREET, DAVENPORT, IOWA

Precision manufacturer of Carbide End Mills • Countersinks • Grinding Burrs • Special Tools • Factory Regrinding

▲ For more details circle NED-407 E7 on enclosed inquiry slip ▲

PROPELLAIR®
it moves the air...

...whisper-quiet performance

Where noise adds to costly confusion you are wise to install whisper-quiet Propellair Type "QD" fans. The efficient air foil design of the rigid, precision balanced, cast aluminum propeller eliminates vibration noise and the sounding board effect of ordinary thin sheet metal blades. The special blade pitch delivers high volumes of air at quieter, lower speeds. Noise is further reduced by Propellair's steel venturi entrance ring. Powered by dependable, totally-enclosed Robbins & Myers motors, they are available in sizes from 12" to 36". Air delivery capacities from 1235 to 12000 CFM.

WRITE FOR BULLETIN NO. 695-N

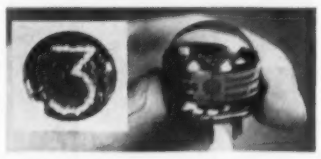
R&M PROPELLAIR®
DIV. OF ROBBINS AND MYERS, INC.
SPRINGFIELD, OHIO

Certified Ratings PMA

MOVING AIR IS OUR BUSINESS

▲ For more details circle NED-408 E7 on enclosed inquiry slip ▲

NUMERICAL INDICATOR TUBE
lights number from 0 to 9 on face



Less than 1 in. diameter, the Nixie electronic numerical indicator tube "counts" visually from 0 through 9. When voltage is applied the selected number glows. Which number appears on its face depends on how voltage is directed to the tube. Uses include digital computers, elevator floor position indicators and readout indicators. Large and smaller units will be offered. Made by **Burroughs Corp.**, Electronic Tube Div., 6071 Second Ave., Detroit 32, Mich.

▲ For more details circle NED-409 E7 on enclosed inquiry slip ▲

CANS & PAILS
are made of stainless steel

Chemical and pharmaceutical manufacturers, food processors and laboratories are among potential users of stainless steel cans and pails. They are made of 24-gage type 304 stainless steel with a 2B finish and equipped with 1/8 x 2 1/4-in. stainless steel plain bands at top and bottom. Snug-fitting lids are easily removed. Can sizes are 12 1/4, 16, 20, 27 and 33 gal, and pail sizes are 5, 7, 8 1/4 and 10 gal. Made by **Witt Cornice Co.**, 2124 Winchell Ave., Cincinnati 14, O.

▲ For more details circle NED-410 E7 on enclosed inquiry slip ▲

MAGNETIC HAND SWEEPERS
18 to 60-in. widths offered

Work areas, driveways and parking lots can be kept free of tramp iron by Alnico V permanent magnet-powered Magni-sweepers. Mounted on semi-pneumatic ball bearing wheels, they are pushed by hand, towed behind a vehicle or, with handle removed, mounted on brackets from lift truck forks. A step-on cleaning plate releases accumulated metal instantly. Variety of magnetic strengths and widths from 18 to 60 in. are available. Sweeping clearances are adjustable from 1 to 2 1/2 in. Made by **Magni-Power Co.**, Dept. 20, Wooster, O.

▲ For more details circle NED-411 E7 on enclosed inquiry slip ▲

Now! Immediate Delivery

ON BOKUM SWING BORING TOOL HOLDERS . . . *Complete Line*

All Sizes for All Machines

New, precision-engineered Tool Holders for Bokum Boring Tools are now immediately available from stock in eight models . . . with holder shank diameters ranging in size from 5/8" to 1 3/4".

Bokum-designed for use on screw machines, turret lathes and multiple spindle automatics, these improved tool holders eliminate many secondary reaming operations, keep set-up time to a minimum, maintain rigid support, hold concentricity and accuracy in boring operations. They're made of alloy steel, specially heat treated and they're adjustable to boring positions of .001"

Write for Supplement No. 1, Catalog 483-T or, better yet . . .

PLACE YOUR ORDER TODAY!

TRADE MARK REG. U.S. PAT. OFF.

BOKUM TOOL CO. INC. 14775 Wildemere Ave. Detroit 38, Mich.

▲ For more details circle NED-412 E7 on enclosed inquiry slip ▲

"FOOLPROOF" TANK WEIGHING
WITH EMERY LOAD CELLS
'rolling ball' head
COUNTERACTS OFF-CENTER LOADING

The tank shown above is one of the simplest arrangements of an Emery Weighing System utilizing the new "Rolling Ball" Load Cell. It consists of one Emery Cell to support the front end of the tank and two Emery Ball Pivot Assemblies or some other support such as an "I" beam for the back of the tank.

The hydraulic pressure in the cell actuates an indicator, recorder or controller which is so calibrated that it reads directly the weight of the tank contents.

Note:
This arrangement is only one of fifteen discussed in our new Bulletin 561. If you have a tank weighing problem, send for Bulletin 561 today.

THE A. H. EMERY COMPANY
Pine Street • New Canaan, Connecticut

▲ For more details circle NED-413 E7 on enclosed inquiry slip ▲

NEW...Easiest to install Edge Control Regulator Ever Built!

SIMPLE—Easy to understand, easy to install, easy to use.

EASY TO MAINTAIN—Needs almost no attention. Any mechanic can take care of it.

DESIGNED BY CONTROL ENGINEERS—Only web guide made by specialists in industrial modulating controls.

NON-CONTACT—Nothing touches the web but a breath of air. No wear or damage to the edge of the material.

DEPENDABLE—Uses the same kind of equipment that heavy industry relies on for the most exacting control jobs. Nothing delicate about it; it's built to take abuse.

ACCURATE—Has never come out second-best in any accuracy test. Proved to be the most accurate web guide on the market.

CONTINUOUS CONTROL—Continuously measures and corrects any runouts. No dead zones. Responds to web position error of half a hundredth of an inch.

NO CLOGGING—Dust, lint, clay or glue will not clog up the control.

Write Askania Regulator Co., 258 E. Ontario Street, Chicago, Illinois for catalog.

ASKANIA REGULATOR COMPANY
"CONTROLS FOR INDUSTRY"
HYDRAULIC, ELECTRONIC CONTROLS & SERVOS, GENERAL SYSTEMS, ENGINEERING & COMPUTER SERVICE, VALVE ACTUATORS & CYLINDERS
A SUBSIDIARY OF GPE

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Fasten and Seal at ONE time

WITH SHAKEPROOF® SEALING FASTENERS

Eliminate separate assembly operations . . . end separate handling, "messy gobbing." Compounds stable from −20° to 230° F. Shakeproof Sealing Fasteners include Lock Washers, Sems (pre-assembled screw and lock washer), KEPS® (pre-assembled nut and lock washer) and Thread-Cutting Screws.

Write for samples today!

SEAL OUT WATER, OIL, GASOLINE, AIR!

SHAKEPROOF
"Fastening Headquarters"®
DIVISION OF ILLINOIS TOOL WORKS
St. Charles Road, Elgin, Illinois

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Interlocked super-safety

GRATING

Dravo I-U-2 safety grating is particularly desirable in areas for public use. Bearing bars are 3/16" thick, spaced 1" or 1 1/8" apart. Cross bars are 2" center to center. Note spacing—an object over 1/2" square cannot pass through the openings.

For information, write Dravo Corporation, Dept. D-2505, Pittsburgh 22, Pa.

DRAVO CORPORATION

For more details circle NED-416 E7 on enclosed inquiry slip

BIL-JAX *Tubular Steel* **WORK PLATFORMS**

Let Bil-Jax solve your "off-the-floor" job problems. Equipment of light-weight tubular steel is designed to give maximum access with minimum investment . . . in complete safety. Platforms and scaffolds for every purpose. Send for facts on complete Bil-Jax line.

SALES AND RENTAL OUTLETS IN PRINCIPAL CITIES

EXPORT REP.: MELVIN PINE & CO. 80 Broad St., New York 4, N.Y.

WEST COAST REP.: A. PALMER SCAFFOLD CO. 3928 San Fernando Road Glendale 4, California

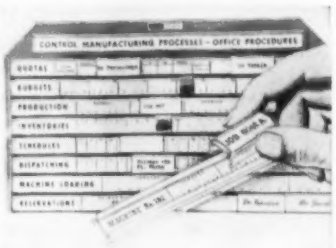
Send for facts on complete Bil-Jax line.

BIL-JAX, INC. ARCHBOLD, OHIO

SCAFFOLDING • TRESTLES • HOIST TOWERS • STAGES

For more details circle NED-417 E7 on enclosed inquiry slip

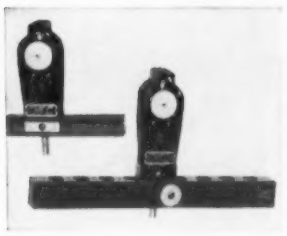
VISUAL CONTROL PANELS
chart organized facts for analysis



Visual indication of production scheduling, personnel assignment, dispatching, machine loading, sales or hundreds of other functions is provided by Acme visual control panels. Offered in 17 and 40-in. widths, these lightweight panels contain from 25 to 100 clear plastic tubes which are individually removable and easily shifted from one position to another. Many styles of signals, plus colored inserts printed or typed with exact information desired, provide almost unlimited signalling and charting possibilities. Tubes are open their entire length for hand posting and use of interior signals. Over-riding signals can be snapped on or off at any point. Made by **Acme Visible Records, Inc.**, Adv. Dept., Crozet, Va.

For more details circle NED-419 E7 on enclosed inquiry slip

INDICATOR DEPTH GAGE
uses interchangeable components



Series of standard interchangeable gage components for use with this standard indicator depth gage adapt it for practically any part condition. By selective variation of components over 3500 standard models may be specified for special dimensions. All models are easily set to gage blocks or master set gage and are furnished with any popular-make indicator. Made by **A. G. Davis Gage & Eng. Co.**, Dept. NED, 21435 Dequindre Rd., Hazel Park, Mich.

For more details circle NED-420 E7 on enclosed inquiry slip

PLASTIC CONTAINER
dispenses small parts or objects

This plastic container will dispense such small parts or objects as capsules, pills or ball bearings. Container has a rotating closure which passes only one object at a time. Plastic is shatterproof, 75 per cent lighter than glass and is offered clear, opaque, or in a variety of colors. Container can be decorated and printed during manufacture to carry any name or advertising message. Made by **Lermer Plastics, Inc.**, Dept. NED, 524 South Ave., Garwood, N. J.

For more details circle NED-421 E7 on enclosed inquiry slip

NO MUSCLES NEEDED!

Air power, directed through a BUCKEYE air tool, makes finishing easy!

There was a time when muscle-power—plenty of it—was needed to finish off a smooth surface. Today, air power has replaced muscles, and modern Buckeye air tools do the job faster, better and more easily.

How about your finishing work? Are you doing it the best and most economical way, with modern Buckeye air tools? Catalog A-10 will help you decide; write for your copy—today!

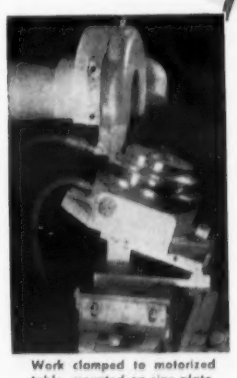
In Air Tools, Your Best Buy Is Buckeye

Buckeye Tools CORPORATION

DIVISION 34 • DAYTON 1, OHIO

For more details circle NED-422 E7 on enclosed inquiry slip

With Lapping Plate



Work clamped to motorized table, mounted on sine plate. Surface grinder application.

FASTER circular precision grinding!

Now with this table and with less effort you assure highest standards of accuracy, flatness, finish and close tolerances. At the same time you eliminate slow and complicated tool setups. You cut grinding time greatly by using only cross feed while the table is rotating at infinite speeds between 40 and 100 RPM.

For example, Vulcan's Rotary Table can be used in connection with a sine plate or angle fixture. The dressing of large expensive external wheels for side grinding is therefore eliminated. If you wish we can provide permanent magnetic chucks designed for use with our table, both 6" and 10" in diameter.

Vulcan's Rotary Table is an air operated, self contained unit, portable between bench or machine. A precision center hole for locating and tapped holes in the table for clamping provides easy setup. Circular surface grinder applications are many and varied — grind flanged studs or bushings — bearing spacers — forming rolls — cutters — convex or concave surfaces — punches or dies (radius or angle).

Lapping? Yes — and in micro inches. For the 6" and 10" table, lapping plates of 12" and 16" are provided. Perfect for lapping valve plates, gages, bearing spacers and for carbide lapping using diamond powder. *Write for circular.*

Major Vulcan Services

Engineering, Processing, Designing and Building....Special Tools.....Dies..... Special Machines....Vulcamatic Transfer Machines....Automation....including the Vulcan Hydraulics that Form, Pierce, Assemble and size. Vulcanaire Jig Grinders ...Motorized Rotary Tables...Plastic Tooling.

Write on your letterhead to

VULCAN TOOL CO.

739 LORAIN AVE. DAYTON 10, OHIO

For more details circle NED-423 E7 on enclosed inquiry slip

Here's how to decrease harmful machine VIBRATION

Machine downtime, quality control problems, shortened machine life and loss of precision—*all* can be caused by excessive vibration. To avoid these costly hazards, machines should be *set* level . . . *kept* level . . . and *re*-leveled periodically. *How?* Equip your machines with EMPCO Leveling Jacks! EMPCO Jacks facilitate machine installation and set-ups . . . assure smooth, positive adjustment . . . provide dependable support for machine tools, large surface plates, automation lines, tool room and production equipment of all types.

VI-SORB MOUNTING PADS GIVE EXTRA PROTECTION

VI-SORB Mounting Pads provide extra protection—reduce the transmission of internal machine noises throughout the building structure and check transmitted vibrations from one machine to another. They retard machine creepage and frequently eliminate the need for anchor bolts. VI-SORB Pads do not breakdown under repeated impact loads or deteriorate with age. They resist oils, greases, acids. Available in thicknesses to meet specific conditions and cut to fit EMPCO Jacks. Set your machines level, keep them level, *freer of vibration*, with EMPCO Jacks and VI-SORB Mounting Pads!

Empco Leveling Jacks
Available in Six Styles—25 Models
Capacity-Rated to 20 Tons!

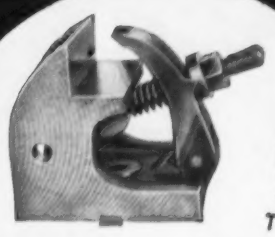
Write today for descriptive Bulletin No. 100

EMPCO LEVELING JACKS

THE ENTERPRISE MACHINE PARTS CORP., 2727 Jerome Avenue, Detroit 12, Mich.

For more details circle NED-418 E7 on enclosed inquiry slip

CUT SET-UP COSTS HUNDREDS OF WAYS WITH



HART MILLING FIXTURES

"Masters of A Thousand Set-ups"

Eliminate the need for many special expensive jigs and fixtures.

You will save time and money on most set-ups with Hart Milling Fixtures. They hold round, hexagonal, octagonal or square stock, for miller, shaper, drill press and tapper; they reduce set-up time and speed production. Hart Milling Fixtures are made in four useful sizes, and designed to be used in horizontal or vertical position. Let us send you full description and prices.

Write for illustrated folder

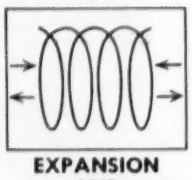
WALTER W. FIELD & SON, INC.
39 Hayward St., Cambridge 42, Mass.

For more details circle NED-424 E7 on enclosed inquiry slip

Titeflex flexible METAL HOSE

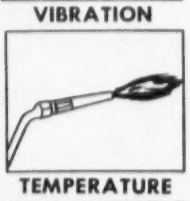
SOLVES PROBLEMS OF . . .

Write today for Free new CATALOG



EXPANSION AND CONTRACTION

VIBRATION



TEMPERATURE

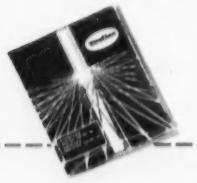
CORROSION

PRESSURE

Titeflex Flexible Metal Hose is made from brass, monel, bronze, carbon, and stainless steel for conveying all types of organic and volatile liquids (as well as gases) within a broad temperature and pressure range for *every* type of industrial application.

If you work with "problem chemicals" or are confronted with any of the problems depicted in this column, be sure to investigate Titeflex Flexible Metal Hose. Design and engineering assistance without obligation.

This hose is now widely used for
1. Fire Extinguishers
2. Air Control Lines
3. Cleaning Vats
4. Air Conditioning Units
5. Milling Machines
6. Hydraulic Presses
7. Steam Lines
8. Many others



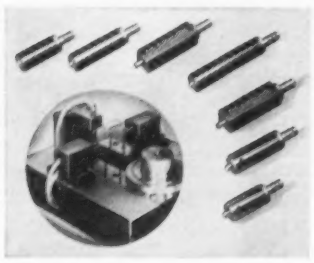
Titeflex
Flexible Metal Hose

TITEFLEX, INC.
Industrial Products Div.
507 Hendee Street, Springfield, Mass.
Please mail new Titeflex Catalog No. 200. No obligation!

Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State_____

For more details circle NED-425 E7 on enclosed inquiry slip

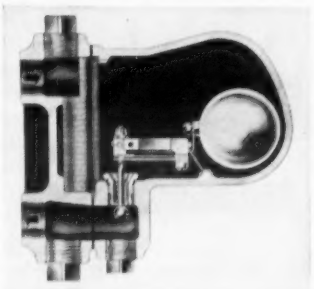
AIR GAGE CARTRIDGES
in 1500:1 to 60,000:1 amplifications



Hard-to-reach surfaces and relationship dimensions involving outside and inside diameters, steps, eccentricity, concentricity, flatness and parallelism can be checked with line of multiple-amplification contact air gage cartridges. They can be used interchangeably on any air gage instrument. Line includes normal, short normal and reverse cartridges which can be used for 1500, 3000 and 6000:1 amplification ranges. A long range, low-amplification cartridge for 15,000, 30,000 and 60,000:1 amplification ranges, plus a square body cartridge for fixturing applications is also offered. All have tungsten carbide gaging tips. Made by **Dearborn Gage Co.**, Air Gage Div., Dept. D, 22038 Beech St., Dearborn 8, Mich.

For more details circle NED-426 E7 on enclosed inquiry slip

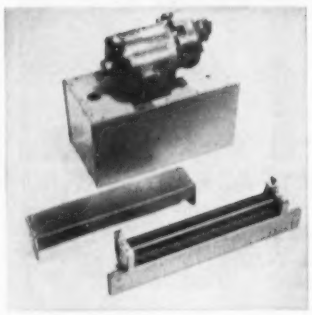
STEAM TRAP
combined float and thermostatic type



Discharge of condensate at steam temperature is possible with the Monovalve float-thermostatic steam trap. It combines float and bimetallic elements, plus an integral strainer, check valve and single discharge valve. Latter unit discharges both air and water. In cold state, the valve is kept open by line pressure or gravity, allowing high capacity air venting. When steam enters, the valve is closed tight by the bimetallic element. Cool or hot condensate and steam can be discharged automatically from the self-draining, freezeproof unit. Made by **Velan Valve Corp.**, Dept. NED, 37 S. River St., Plattsburg, N. Y.

For more details circle NED-427 E7 on enclosed inquiry slip

COIL STOCK LUBRICATOR
motorized unit fits all presses



Continuous, uniform and controllable amount of lubricant is sprayed on top and wiped on the bottom of coil stock before it enters the press by this motorized stock lubricator. Designed for all types of presses employing roll feeds, it returns excess lubricant to a tank. Components are geared pump motor, filter or baffle tank and stock lubricator head. Additional spray adapters can spray lubricant on drawing stations. Made by **Brandes Press Co.**, Dept. A-4, 6408 Euclid Ave., Cleveland 3, O.

For more details circle NED-428 E7 on enclosed inquiry slip

QUICK-DISCONNECT ACCESSORY
designed for standard AN connectors

Quick connect and disconnect action is given to standard AN plugs and receptacles by an accessory consisting of adapter and coupler. It makes available a range of sizes. Adapter screws over coupling threads and contains an external locking groove which receives the formed ends of the coupler latch when fully engaged. Straight-back pull on the coupler sleeve releases the latch and permits disconnection. Special spring latching assembly replaces coupling nuts on standard AN3106 and AN3108B plugs. Adapter fits AN3102, AN3101 or AN3100 receptacles. Made by **Cannon Electric Co.**, Box 3765, Terminal Annex, Los Angeles 54, Calif.

For more details circle NED-429 E7 on enclosed inquiry slip

500 lb. Lifter- NOW $210 f. o. b. Chicago

Pays for itself over and over again in time saved and by avoiding lifting injuries in moving dies, machine parts and stacking. Can be used as adjustable height work table. Rugged, simple construction, with few moving parts, has high safety overload factor. Automatic clutch holds load at any height.

Specifications: platform 24" x 24", lifting height 4' 6". Overall height 6' 0". Width 24". Foot operated floor lock.

SHOPLIFTER

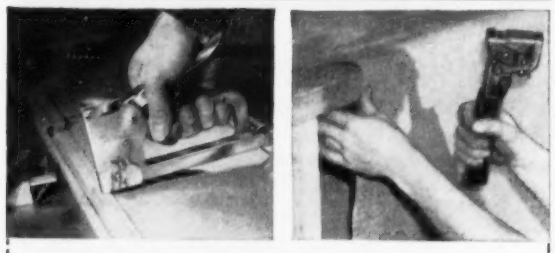
This sturdy, general purpose lifter makes it easy for one man to handle lifting jobs quickly and with complete safety.

Order Today— Free Trial

specify 10 day free trial, with full credit return privilege. 1000 lb. and 2000 lb. Shoplifters also available.

ECONOMY ENGINEERING 4519 W. Lake St. Chicago 24 Illinois

For more details circle NED-430 E7 on enclosed inquiry slip

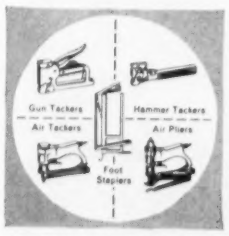


DUO-FAST automatic tacking

Beats nailing 3 to 1

Take your choice . . . you save either way. Either of these handy DUO-FAST Tackers give you better, neater fastening in ½ the time *or less!* Portable, easy to use . . . one hand does it! Versatile, too. You'll use 'em in shipping, maintenance, assembly, production.

Free Service. Staple Gun and Hammer Tacker above are two of over 150 DUO-FAST stapling models. And every one carries a Free Service Guarantee.



Send today for free Bulletin FT-34 on DUO-FAST hand-operated tackers. Write *FASTENER CORPORATION, 858-60 Fletcher, Chicago 14, Ill.*

DUO-FAST
Staplers · Tackers · Staples

7336

For more details circle NED-431 E7 on enclosed inquiry slip

this NO-COST TEST OFFER has CONVINCED thousands

. . . send for YOUR FREE "TEST CAN" of C-5 "hi-temp" ANTI-SEIZE THREAD COMPOUND!

For use wherever threaded connections are subjected up to 1800°F. temperatures such as boiler, manhole, face plate studs, cylinder heads, and manifold studs or flange bolts on high temp steam lines and pumps.

Try C-5 and see why manufacturers, refiners and power producers have made it a part of their regular preventative maintenance program.

fel-pro C5 "HIGH-TEMP"

✓ Ends Seizing and Galling even up to 1800°F.
✓ Reduces Wrench Torque
✓ Ends Stud Breakage
✓ Permits Repeated Re-use
✓ Speeds Assembly and Disassembly
✓ Protects Stainless Steel at all Temperatures

1614-B

ANTI-SEIZE THREAD COMPOUND

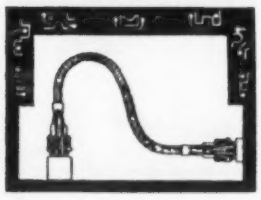
C-5's exclusive colloidal copper formula separates mating metal threads and surfaces with cushioning, protective copper plating. C-5 prevents galvanic action and eliminates pitting even when dissimilar metals join. On mating metal surfaces, C-5 saves gaskets and countless man hours.

WRITE TODAY . . . For Your FREE Test Sample Can of C-5.

FELT PRODUCTS MFG. CO.
1510 Carroll Ave., Chicago 7, Ill.

For more details circle NED-432 E7 on enclosed inquiry slip

FLEXIBLE SHAFTS
handle wide variety of control applications.



The Flexible Shaft today, although not complicated, is a specific component designed for specific applications. Industry in many fields, i.e., automotive, automation, aircraft, electronics, radio and television, machinery and marine (to name but a few) have found flexible shafting to be more economical and yet more productive than whatever means they were employing to control motion from one unit to another where obcstacles in the path of installation were impossible to do away with.

There are two types of flexible shafts. One is the power drive flexible shaft which utilizes a cable wound to rotate in one direction only. The outer layer of wire of the cable determines the direction rotation, and is wound so that the slack is taken up when the shaft is in operation, making it practically impossible for the cable to spring from its original shape. The other type is the remote control flexible shaft in which the cable is wound so that the slack is taken up no matter which direction the shaft is turned. The remote control shaft provides for both rotation and reciprocation, such as the opening and closing of a valve. ●●● For complete information as to how flexible shafting may help you solve your specific control problem, write F. W. Stewart Corporation, 4311-13 Ravenswood Ave., Chicago 13, Illinois. **Advt.**

▲ For more details circle **NED-433 E7** on enclosed inquiry slip ▲

SUTORBILT

BLOWERS
GAS PUMPS
VACUUM PUMPS

Special features, such as heavy duty roller bearings, wide face herringbone gears and the exclusive Sutorbilt timing hub are all designed to assure you trouble-free service and longer operating life. Simplicity of design and rugged construction are further plus values.

Standard units are available in capacities to 20,000 CFM and pressures or vacuums to and including 10 psig. S-1

Write for the name of the representative nearest you or check your local telephone book.

SUTORBILT CORPORATION
Maywood, Calif.
SUBSIDIARY OF FULLER COMPANY • CATASAUQUA, PA.

▲ For more details circle **NED-434 E7** on enclosed inquiry slip ▲

HIGH EFFICIENCY
R&M-Hunter
INDUSTRIAL FAN

HUNTER

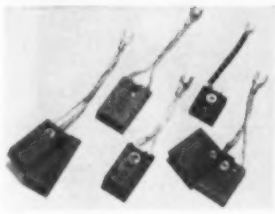
For sidewall, penthouse, spot cooling

- 24" to 48" blades
- Effective up to 1/2" static pressure
- Totally enclosed motor
- Easily installed frame
- Streamlined air inlet
- Automatic shutters
- Certified air deliveries

For catalog and prices, write
HUNTER DIVISION — ROBBINS & MYERS, INC.
2454 Frisco Ave., Memphis 14, Tenn.

▲ For more details circle **NED-435 E7** on enclosed inquiry slip ▲

GRAPHITE BRUSHES
help prolong commutator efficiency



High contact drop, low friction and good carrying capacity are characteristics of series D graphitic brushes which assure long commutator efficiency under severe physical and atmospheric conditions. Series is recommended for modern alternating and direct current heavy duty traction, locomotive, mill, mine, crane, elevator and electric shovel motors, as well as for general service on most dc generators and synchronous converters. Film forming properties needed while operating under adverse atmospheric conditions are present. Made by **Ohio Carbon Co.,** Dept. 176, 12508 Berea Rd., Cleveland 11, O.

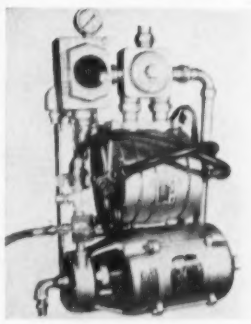
▲ For more details circle **NED-436 E7** on enclosed inquiry slip ▲

WET BLAST EQUIPMENT
uses fixed, rotated or stroked guns

Deburring of small machined components, cleaning of electronic parts, satin - finishing of jewelry items and stripping wire ends are among applications for Pressure Blast wet blast equipment. Seated operator loads two parts at a time into two gasketed bays within the cabinet. Guns may be fixed, rotated or stroked. Illustrated unit has air cylinder for lateral stroking motion. Masks can be fitted in the bays for protection of certain areas on the workpiece. Made by **Cro-Plate Co.,** Dept. N, 747 Windsor St., Hartford 5, Conn.

▲ For more details circle **NED-437 E7** on enclosed inquiry slip ▲

PAINT SPRAY HEATER
controls temperature and viscosity



Setting of single external dial assures accurate control over temperature and viscosity of paint or other materials heated and handled by this Viscomatic hot spray heater. The Dial-a-Matic control can be adjusted while unit is operating to any temperature from 90 to 180° F. All standard paint materials, including lacquers, enamels, vinyls, epons and oil-base types, as well as formulated hot spray materials can be handled. Features include maintenance-free centrifugal pump and simple coil-less heat exchanger. Made by **Spee-Flo Co.,** Dept. NED, 720 Polk Ave., Houston 2, Tex.

▲ For more details circle **NED-438 E7** on enclosed inquiry slip ▲

PORTABLE OSCILLOSCOPE
has 22-mv (dc) per inch sensitivity

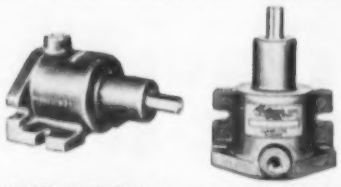
Compact, portable type 402 oscilloscope for field use or rack mounting weighs only 25 lb and measures 19 x 11⅛ x 5 in. Unit affords sensitivity of 22 mv (dc) per inch; identical direct coupled X and Y amplifier and amplitude calibration on both channels; and calibrated sweeps, both driven and "automatic." The 2.5 kv accelerating potential on the type 3WP cathode ray tube assures an exceptionally bright trace. The "automatic" sweep will present a clear baseline without actual signal input. An illuminated scale aids photographic procedures. Aluminum case and a tilt-stand are available. Made by **Allen B. Du Mont Laboratories, Inc.,** 750 Bloomfield Ave., Clifton, N. J.

▲ For more details circle **NED-439 E7** on enclosed inquiry slip ▲

Modernair

CLAMP-TYPE AIR CYLINDERS

Easiest to install or relocate!



UNIVERSAL MOUNTING for easy vertical or horizontal installation.
SLOTTED MOUNTING HOLES save installation, relocation time.
SPRING-RETURN TYPE CYLINDER operates from simple 3-way valve (MODERNAIR CRV or BV series recommended). Has ⅛" NPT port.

ECONOMICALLY PRICED, TOO!

Bore Size	Price (f.o.b. factory) 1" Stroke	2" Stroke
1⅛"	$ 8.50	$ 9.75
2"	16.00	19.00
3"	23.50	26.50

Write TODAY for Free Literature!

Modernair CORPORATION
Dept. F 5, 400 PREDA ST., SAN LEANDRO, CALIF.
Member National Fluid Power Association 9

▲ For more details circle **NED-440 E7** on enclosed inquiry slip ▲

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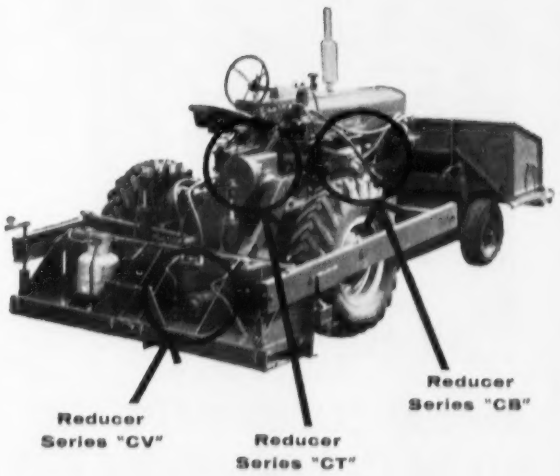
3 WINSMITH SPEED REDUCERS

HELP TRAC-PAVER SMOOTH OUT ROUGH PAVING JOBS

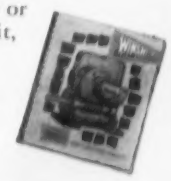


● Trac-Machinery Corp., manufacturers of TRAC-PAVER — the self propelled black top paver, select Winsmith Speed Reducers for three exacting control jobs.

Winsmith reducers were chosen for their ability to take plenty of on-the-job punishment — a requirement that TRAC-PAVER must meet every day on hundreds of jobs in the field.

On the TRAC-PAVER illustrated, a Winsmith reducer model 9 "CT" actuates the conveyor and auger; a 9 "CB" operates the traction drive and forward motion drive; and a 5 "CV" runs the finishing bar oscillating screed.

Whether your product uses one or many speed reducers per unit, investigate the advantages of standardizing on the Winsmith line . . . the most complete line within the range of 1/100 to 85 h.p.



● Selection information and engineering data on the complete line is covered in Catalog #155. Write for your copy.

WINSMITH SPEED REDUCERS

WINSMITH, INC.
119 Eaton Street, Springville, (Erie County), N. Y.

▲ For more details circle **NED-441 E7** on enclosed inquiry slip ▲

- Re-mark and re-ship quickly in original container
- Block out and re-stencil left over cartons
- Cover over and correct stenciling errors with...

REYNOLDS STENCIL-KOVER

Very opaque, fast drying blockout fluid. Tan colored to match corrugated cartons. Completely covers over old stenciling, labels, printing, crayon and painted markings, etc. Fast drying — waterproof.

Packaged in handy easy-to-hold 12 oz. spray container. Easy to use. Easy to store. No brushes. No stirring. No cleaning up afterwards.

A trial will convince you. *Write for full details!*

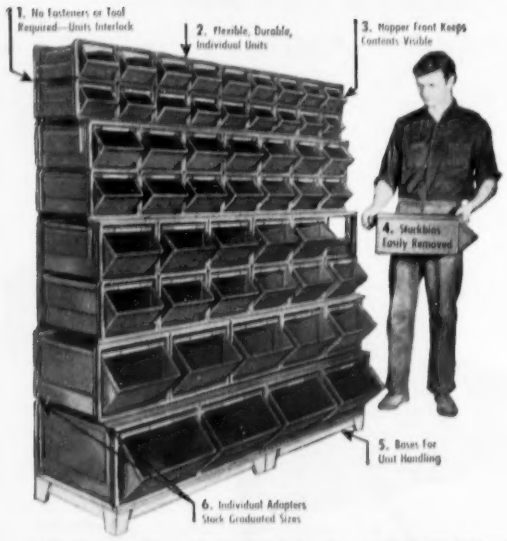
Ask us also about Reynolds Stencil Ink. Fast drying—water-proof. Packaged in handy easy-to-hold aerosol spray container that eliminates leaky, sticky, messy ball pots, fountain brushes and rollers.

9 COLORS for stenciling cartons, crates, boxes, steel drums, color coding metals and other materials, or any other stenciling on steel, wood, fiber, canvas, or other surfaces.

REYNOLDS INK, INC.
4554 Euclid Avenue • Cleveland 3, Ohio

For more details circle NED-442 E7 on enclosed inquiry slip

CUT HANDLING COSTS STOCK MORE IN LESS SPACE



LOW-COST, STACKBIN-IN-STACKRACK UNITS PAY FOR THEMSELVES IN 3 WAYS

SAVE SPACE — Individual units stack easily and lock securely as high and as long as you need. Seven different size units available.

SPEED PRODUCTION — Stackbins reduce handling time. Can be used intra-plant in processing, sub-assembly, assembly and stockroom. Roller Bearing Slide Stackracks available for heavier contents. Locking Pallets supplied for unit load handling.

REDUCE INVENTORY TIME — Accessibility of Stackbins for weight count speeds inventory taking; visibility of contents simplifies control.

STACKBIN-IN-STACKRACK COMBINATIONS are made of heavy gauge steel with all welded construction and baked enamel finish.

LOW-COST STACKBIN PRODUCTS ARE SOLD DIRECT —

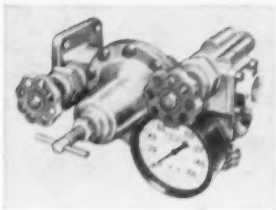
FREE CATALOG WRITE TODAY

STACKBIN CORP. 1081 Main St., Pawtucket, R.I.
Mfd. & sold exclusively in Canada by: Wickware-Stackbin, Ltd., Ottawa

STACKBIN SYSTEM
"Stacked and Still Accessible"

For more details circle NED-443 E7 on enclosed inquiry slip

AIR CONTROL MANIFOLD
½-in. size added to line



In the cast aluminum body of this air control manifold, now available in ½-in. size, is a pressure reducing regulator, shutoff valve, strainer, blowdown valve, check valve, pressure gage and snubber. Headers with 2, 4, 6, or 8 stations permit installing many controls in one location. Units are readily interchangeable because of subplate mounting. They are intended to concentrate air controls on presses of all sizes, for controlling clutch, service brake, counterbalance cylinder, cushion, die lifter, unloading devices and die lubricant. Made by **Republic Mfg. Co.**, Dept. N, 15655 Brookpark Rd., Cleveland 11, O.

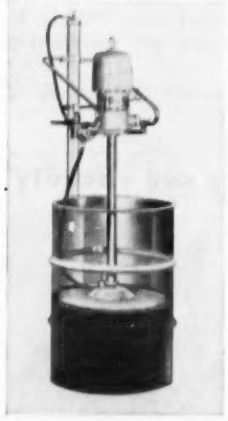
For more details circle NED-444 E7 on enclosed inquiry slip

GRINDING WHEEL
reinforced flared cup type

High initial strength and safety for the operator are offered by the Safety Back flared cup grinding wheel. Disposable reinforcing steel covers the entire back and extends down the side as an aid in overcoming abusive wheel mounting and operating practices. It does not interfere with maneuvering the wheel. Made by **Raybestos-Manhattan, Inc.**, Manhatten Rubber Div., Abrasive Wheel Dept., Passaic, N. J.

For more details circle NED-445 E7 on enclosed inquiry slip

PUTTY PUMPING UNIT
dispenses direct from 55-gal drum



Caulking compounds, putty, semifluid sealers, adhesives and similar materials too viscous to be poured from their containers can be dispensed directly from original 55-gallon drums by this Inductor pumping unit. The unit seals material in the container to prevent contamination or spillage. It starts at the top of the material and literally "sucks" its way to the bottom, scraping the sides and completely evacuating material from the drum. Available power ratios meet all pressure and volume requirements. Half drum and 5-gallon pail sizes are also available. Made by **Gray Co.**, 1089 Sibley St. N.E., Minneapolis 13, Minn.

For more details circle NED-446 E7 on enclosed inquiry slip

When Your Process Demands a Filter, Mixer or Mixing Tank

CHECK THE ADVANTAGES

Clip and Mail This Coupon For Complete FREE Alsop Catalog

ALSOP ENGINEERING CORPORATION
1205 East Road, Milldale, Conn.

GENTLEMEN:
Please send me FREE, your new catalog, "Liquid Processing Equipment".

Name
Company
Address

For more details circle NED-447 E7 on enclosed inquiry slip

ONE Clark LATHE TOOL HOLDER Grips 3 bit shapes

Many Bit Sizes!

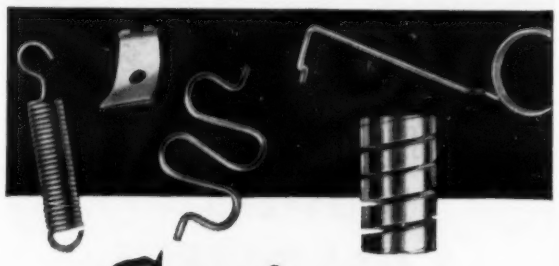
Clark LATHE TOOL HOLDERS do the *USUAL* and *UNUSUAL* JOBS BETTER IN EVERY SHOP—*SOLIDLY GRIP* ROUND, SQUARE and RECTANGULAR SHAPES—Enable turning, threading, boring with bars as well as cut-off operations with *ONE* tool holder!

Special vee clamp operating on diagonal accommodates several bit sizes, grips *full length of the cutter channel*. Holds bits tighter, eliminates chatter and harmonic vibration. Excellent rigidity for carbide tools!

4 Clark Lathe TOOL HOLDER SIZES cover complete range of lathe requirements from ⅛" bits to ⅝" bits. Write for prices or order from your dealer.

Robert H. Clark Company
9330 Santa Monica Blvd., Beverly Hills, California

For more details circle NED-448 E7 on enclosed inquiry slip



Springs

ENGINEERED FOR YOUR PRODUCT

The right spring will give you better performance. Consult our design specialists while your plans are in the formative state — for anything from a spring, to a wire form or small stamping. Send for your copy of "Spring Design and Selection — in brief."

ASSOCIATED SPRING CORPORATION

5724 © 1957 A.S.C.

General Offices: **Bristol, Connecticut**

For more details circle NED-449 E7 on enclosed inquiry slip

M&M AIR FLUFF PAPER SHREDDER

101

A valuable machine, to you, for the speedy, safe, efficient disposition of blueprints, letters, confidential records. The M & M Air Fluff Paper Shredder is also a money saver to those companies that use quantities of paper excelsior—by converting waste paper into valuable excelsior. Adjustable cuts of ⅛", 3/16", ¼", or ⅜" widths. Models range in productive capacities from 200 to 2500 pounds per hour. Write for descriptive folder.

MITTS & MERRILL
1000 SO. WATER ST. • SAGINAW, MICHIGAN

For more details circle NED-450 E7 on enclosed inquiry slip

New galvanized rollers

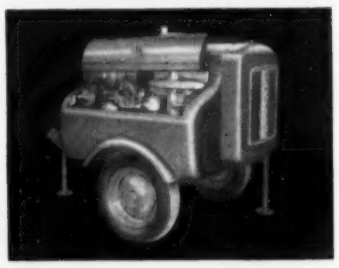
Corrosion a problem? Choose Rapistan Rapid-Roller conveyor with galvanized rollers, frame and plated bearings. Capacity up to 1,500 lbs. Also available with steel or aluminum rollers. For complete details on this versatile, low cost gravity conveyor, write today for literature on the 1.75" roller series.

Another good idea from Rapistan

Rapistan®

The RAPIDS-STANDARD CO., Inc.
92 Rapistan Bldg.
Grand Rapids 2, Mich.

▲ For more details circle **NED-451 E7** on enclosed inquiry slip ▲



AIR COMPRESSORS

15% Less Fuel — 15% More Power
FOR PLANT MAINTENANCE

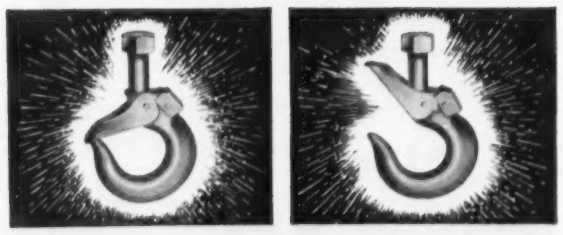
Chop maintenance costs with the Schramm 75-cfm PNEUMAPOWER Piston-type Air Compressor. Most compact, most economical gasoline-engine-driven compressor in its rating. Operates paving breakers, sump pumps, all maintenance air tools. Watercooling permits operation at higher temperatures than air-cooled or oil-cooled compressors. Costs less to buy and operate. See local dealer or write for free catalog.

Schramm, Inc.
MANUFACTURERS OF AIR COMPRESSORS
700 North Garfield Avenue • West Chester, Penna.

▲ For more details circle **NED-452 E7** on enclosed inquiry slip ▲

• *Positive Locking* • *Won't Snag*
• *Unobstructed Throat Opening*

COFFING Safety Hook*



The strong, rust-resistant Coffing Safety Hook provides complete protection against slipping of the load support, without obstructing the throat opening. The latch is held in both open and closed positions by a positive locking action and cannot be moved unless released. In the open position the latch is completely clear of the throat opening, and closed it permits use of the entire hook area.

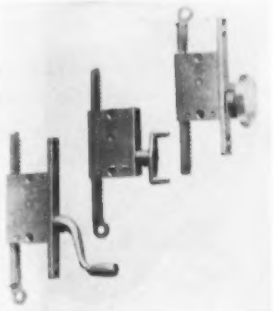
Safety Hooks are available in capacities up to three tons, and may be specified for new hoists (at slight extra cost) or purchased for hoists already in service. For complete information consult your distributor, or write to Coffing Hoist Division, Duff-Norton Co., 803 Walter Street, Danville, Ill.

**Patent No. 2,706,318*

COFFING HOIST
DIVISION OF **DUFF-NORTON COMPANY**

▲ For more details circle **NED-453 E7** on enclosed inquiry slip ▲

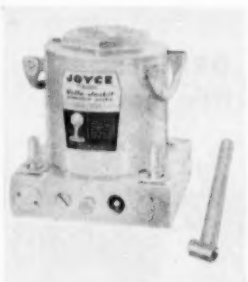
MECHANICAL ADJUSTER
changes rotary motion into lateral



Easily operated mechanical adjustor transfers rotary motion into vertical or horizontal motion. Its capacity exceeds 250 lb. Unit travels a total of 3 in. in 20 revolutions. Various types of handles or knobs to meet individual requirements, and optional face mounting flange are available. Made by **Parlyn Products,** Dept. N, 556 S. Monterey Pass Rd., Monterey Park, Calif.

▲ For more details circle **NED-454 E7** on enclosed inquiry slip ▲

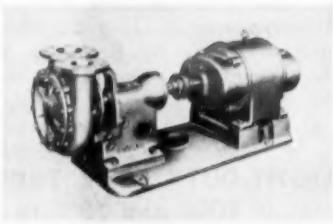
HAND HYDRAULIC JACK
capacities range from 3 to 100 tons



Developed for industrial and construction use, Liftmaster Yello-Jackit hand-operated hydraulic jack has malleable iron pump beam for safe operation. Pump is replaceable in the field. Positive-grip contact pad with circular groove prevents loads from slipping on the 3 to 20-ton models. Serrated pads assure safety on the 30, 50 and 100-ton models. Made by **Joyce-Cridland Co.,** 2222 E. First St., Dayton 3, O.

▲ For more details circle **NED-455 E7** on enclosed inquiry slip ▲

CENTRIFUGAL CHEMICAL PUMP
has aluminum bronze construction



Aluminum bronze construction of this 3715 centrifugal chemical pump enables it to resist corrosive effects of oil field salt water pumping. While only 80 per cent as heavy as regular bronze, metal has impact strength of 20-30 Izod and Brinell hardness of 190, as cast. Other features include suction and discharge connections in the casing. Impeller and pump interior can be removed without disturbing piping. Stuffing box is on suction side of impeller, limiting the pressure on it only to that under which pump operates. Nine sizes range from ¾ x 1 to 3 x 4 in., providing a broad range of capacities and heads. Pump is also available in two stainless steel alloys. Made by **Goulds Pumps, Inc.,** Dept. NED, 27 Black Brook Rd., Seneca Falls, N. Y.

▲ For more details circle **NED-456 E7** on enclosed inquiry slip ▲

Foster's AUTOMATIC Quick Detachable Coupler

CUTS YOUR COUPLER COSTS ON HEAVY DUTY WORK

for OIL, AIR and GREASE

Smaller and Lighter Than Most Light-Duty "ball-type" Couplers

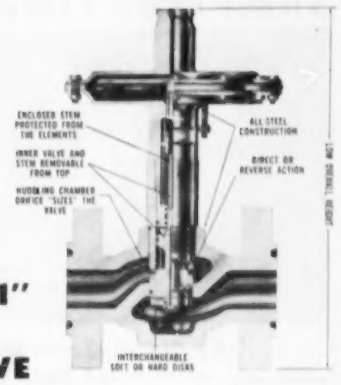
THE FOSTERMATIC "BULLDOG" GRIP
"Dogs" are contoured to grip 41% of plug locking surface.

"Dogs" instead of "balls" lock steel against steel . . . hold tighter, without leakage . . . positioned by "floating steel carrier" which absorbs vibration of pulsating air. Chrome sleeve is of stress-proof, heat treated steel to withstand roughest treatment. The Fostermatic is right for 90% of all uses.

Send for New Catalog Data Book #110 — No Obligation!

FOSTER MFG. CO., INC.
2850 Gravois, Dept. 2-C St. Louis 18, Mo.

▲ For more details circle **NED-457 E7** on enclosed inquiry slip ▲



TYPE "DCB-1" MOTOR VALVE

Check this valve closely if you need automatic control of high pressure liquid or gas. It features a pressure-balanced disk that permits pressures to 10,000 psi to be controlled with one diaphragm @ 40 psi supply air. Valve positioners are not required . . . bubble-tight closure is guaranteed.

Catalog No. 256 MVC contains complete information on this and many other GOT Motor Valves. Write for your copy today.

Garrett Oil Tools, Inc.
P. O. BOX 2427 • LONGVIEW, TEXAS
DIVISION OF U. S. INDUSTRIES, INC.
New York, N. Y.

▲ For more details circle **NED-458 E7** on enclosed inquiry slip ▲

Providence Hospital, Mobile, Alabama.

HYDROCIDE*
S-X COLORLESS
gives exterior walls of this new hospital positive water-repellency

The exterior brick and masonry walls of the new Providence Hospital have been treated with surface-penetrating Hydrocide S-X Colorless to make them water-repellent. This also minimizes the effects of weathering. It discourages the adhesion of dirt and grime, preserves the original beauty, color and texture of exterior brick and masonry.

Before you specify or buy any water-repellent, consider these facts:

- Hydrocide S-X Colorless was one of the first in its field. It has had the benefit of longer research and performance testing under all climatic conditions.
- Hydrocide S-X Colorless is *the* silicone-base water-repellent created out of complete collaboration between the primary silicone producers and Sonneborn's intimate masonry waterproofing knowledge.
- Sonneborn issued the first *performance* specifications ever drafted for a silicone-base water-repellent; this specification has served as the model for the industry.

Thus, Hydrocide S-X Colorless started with "plus" advantages—and continuous research has maintained these advantages over the years.

Hydrocide S-X Colorless has been used on many millions of sq. ft. of brick, concrete, block and stucco surfaces. This confirms its eminently satisfactory performance.

*T.M. Reg. U.S. Pat. Off.

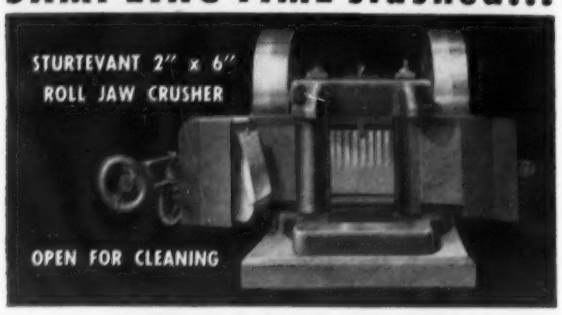
A Product of **Sonneborn** RESEARCH

Since 1903 manufacturers of quality building products.

L. SONNEBORN SONS, INC.
Building Products Division—Dept. N5
404 Fourth Avenue, New York 16, N. Y.
Gentlemen:
☐ Send more information on Hydrocide S-X Colorless for masonry walls of buildings.
☐ Also include *FREE* copy of 128 page Building Construction and Maintenance Handbook.
NAME.....
COMPANY.....
ADDRESS.....
CITY..... ZONE..... STATE.....

▲ For more details circle **NED-459 E7** on enclosed inquiry slip ▲

SAMPLING TIME slashed...



. . . by Small-Scale Duplication of Full-Scale Production!

12-PAGE BULLETIN PROVES IT!

SEE how exclusive "OPEN-DOOR" design makes cleaning and maintenance quick and easy . . . how rugged construction keeps equipment running round the clock for years.

COMPARE the capacities and performance of Sturtevant Roll Jaw Crusher, Crushing Rolls, Swing Sledge Mills and Sample Grinder with what you are now using.

LEARN why the "blue chips" in industry and education prefer Sturtevant Laboratory Equipment.

WRITE FOR 12-PAGE BULLETIN on Sturtevant Laboratory Equipment and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT

Dry Processing Equipment

The "OPEN-DOOR" to *lower* operating costs over *more* years

CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

▲ For more details circle NED-460 E7 on enclosed inquiry slip ▲

CUT maintenance, labor costs

INCREASE PRODUCTION!

Coolant fed into a Barnesdril magnetic coolant separator continuously circulates around the drum of powerful permanent Alnico magnets. Swarf, chips, and other ferrous particles are removed. Coolant is cleaned by the separator, thus preventing machine downtime and improving finishes.

a user reports:

"Our surface grinder (above) required 6 hours of cleaning and 5 gallons of coolant per week. With the Barnesdril magnetic separator installed, there has been no downtime in 4 months and coolant used has dropped to 1 gallon per week. *We cut our grinding costs $65.50 per week.* Paid for the installation in less than 2 months."

These savings are typical. Call your Barnesdril Factory Representative today or write for Catalog 350.

* Barnesdril Magnetic Separator #4 installed on a Blanchard No. 18 Surface Grinder.

FILTRATION DIVISION
BARNES DRILL CO.
866 CHESTNUT STREET • ROCKFORD, ILLINOIS
DETROIT OFFICE: 3419 South Telegraph Road

50th year

▲ For more details circle NED-461 E7 on enclosed inquiry slip ▲

PLASTIC FAN moves chemical-laden air and gases

This centrifugal, non-overloading radial bladed fan made of polyvinyl chloride will move chemical-laden air or gases in processing operations. All parts exposed to air-stream are PVC plastic, including blades, scroll, wheel hub and wheel back plate. Designed for floor, platform or roof mounting, the belt-driven fan is offered in 12 to 40-in. diameters. Output ranges from 200 to 10,000 cfm at up to 6-in. S.P. Power is from ¼ to 10 hp at up to 150° F, depending on fan diameter. Discharge direction of plastic housing can be adjusted to fit job requirements. Made by **Chicago Blower Corp.**, Dept. NED, 9863 Pacific Ave., Franklin Park, Ill.

▲ For more details circle NED-462 E7 on enclosed inquiry slip ▲

ULTRASONIC IMPACT GRINDER shapes hard and brittle materials

Ultrasonic energy is utilized by this versatile impact grinder to drill, slice, trepan, engrave and shape hard metals, carbides, ceramics and glass to tolerances within ±0.0007 - in. Finishes range to 8 microinches. Machinable areas can be from 0.002 to 1-in. diameter. Features include hardened and ground steel ways, semisteel base and pedestal castings, and steel-encased driver cabinet. Power source is 115 v ac. Water cooling is not required. Made by **Raytheon Mfg. Co.**, Commercial Equipment Div., Dept. 6120, 100 River St., Waltham 54, Mass.

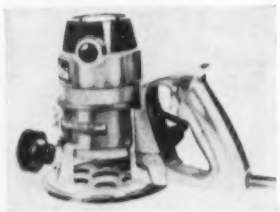
▲ For more details circle NED-463 E7 on enclosed inquiry slip ▲

LIGHT-DUTY FORK TRUCKS in 5000 and 7000-lb capacities

Short turning radius and other maneuverability features are provided by FTA - 50 and FTA - 70 light-duty fork trucks where operating conditions are not too severe. Units have 5000 and 7000-lb capacities, respectively. The FTA-50 has 77¾-in. turning radius for 68¾-in. minimum intersecting aisle, 41-in. width and 79⅝-in. overall length without forks. Model FTA-70 turns in 86¾ in., is usable in 74¾-in. intersecting aisle and measures 89¾ x 44½ in. overall. Standard lift is 120 in. and maximum travel speeds are 5.5 and 5.0 mph, respectively. Made by **Baker-Raulang Co.**, 1245 W. 80th St., Cleveland 2, O.

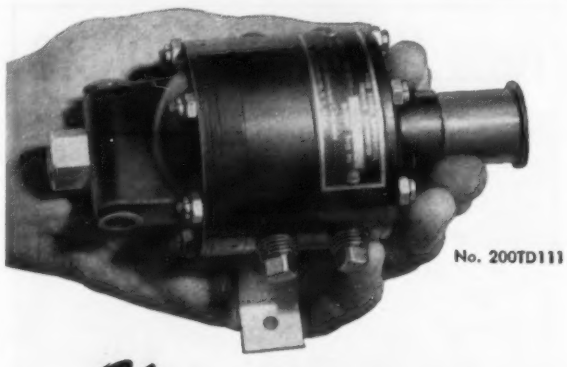
▲ For more details circle NED-464 E7 on enclosed inquiry slip ▲

POWERED ROUTER has 1¼-hp, 22,000-rpm motor



Trigger - switch power control and ease of operation are features of model 150 router which is powered by an 8-amp, 1¼-hp, 22,000-rpm motor. Handle affords convenient control of the 7¾-lb tool in any position. Over 150 bits and cutters can be used to perform veining, fluting, compound molding, reeding, bevelling or V-grooving. Templets are available to do jobs from dove-tailing to hinge seating. Power unit is interchangeable with Porter-Cable 150P plane attachment and the 150S shaper table. Ball bearings are permanently lubricated. Wrenches, a straight edge guide and an operating manual are supplied. Made by **Porter-Cable Machine Co.**, 106 Exchange St., Syracuse 8, N. Y.

▲ For more details circle NED-465 E7 on enclosed inquiry slip ▲



New, LOW COST FLOW TRANSMITTER

A Fixed Range Differential Pressure Transmitter, No. 200TD111 provides an extremely economical means of measuring flow, liquid level or pressure. It is therefore a practical cost accounting aid for many applications previously considered marginal.

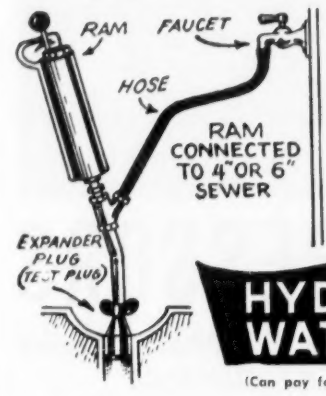
Measuring only 7½" x 3", weighing only 4 lbs. 10 ozs., it's simplified piping, force-balance construction and external adjustments make it easy to install and maintain. Calibration accuracy is better than 1%. Sensitivity exceeds 0.1%. Ranges 0 to 50, 100, 200, and 300 inches of water—easily and quickly changeable. Built for rough service and outdoor mounting, the No. 200TD111 is highly practical for cost accounting purposes.

Call your Taylor Field Engineer, or **write for Bulletin 98274.** Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

Taylor Instruments **MEAN ACCURACY FIRST**

▲ For more details circle NED-466 E7 on enclosed inquiry slip ▲

Enjoy 30 Day Free Trial!



Easily clears the most stubborn drain and sewer stoppages

The ideal plumbing service tool for maintenance men!

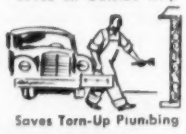
Comes equipped with self-contained compressor and drain adaptors in 6 sizes!

HYDRAULIC WATER RAM

(Can pay for itself in one application!)

Why lose time, suffer inconvenience, waste dollars on needlessly costly plumbing service? The Hydraulic Water Ram clears severest blocked drain lines and sewers in minutes. No chemicals, no snakes, no electric cables, no pushing through. Saves costly outside help, or expensive torn up piping. Uses IMPACT, (HYDROSTATIC) a basic scientific principle of POSITIVE HYDRAULIC POWER. Shatters hard grease, debris other blockage into fragments easily flushed down to main. Works perfectly, vent or no vent! Services up to 6" pipe. Works perfectly on all types of clogged toilets, sinks, sewers, etc. Can pay for itself in a single application. Nothing to wear out. Good for a lifetime. Thousands in use, including over 3,000 in government agencies. You risk nothing. Write for details on how to get free 30 day trial at our expense.

Saves on Outside Help

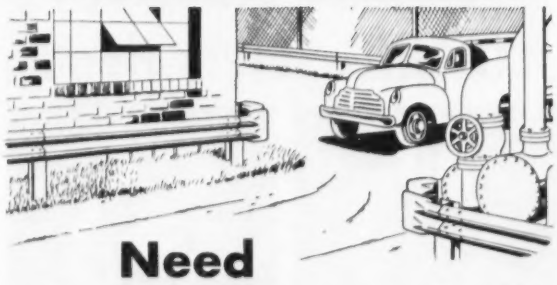

Saves Torn-Up Plumbing

Write for Information, Prices, Details of Free Trial Offer!

HYDRAULIC MANUFACTURING CO.
Dept. ND-5 Kiel, Wisconsin

▲ For more details circle NED-467 E7 on enclosed inquiry slip ▲

BUILDING CORNERS



Need Anchor Guard Rail

Anchor Guard Rail makes an ideal *first line of defense* for building corners, plant parking lots, transformer enclosures, pipe installations, driveways and valuable fencing. With its extreme strength and compact design, Anchor Guard Rail provides sturdy, *buffer* protection. Only minimum maintenance is required to keep it good-looking and neat.

Anchor is erected by our own factory-trained experts . . . backed by 65 years of erecting experience. Call your local Anchor office for a free estimate or write: ANCHOR FENCE, 7005 Eastern Ave., Baltimore 24, Maryland.

Anchor Fence®

Division of ANCHOR POST PRODUCTS, Inc.

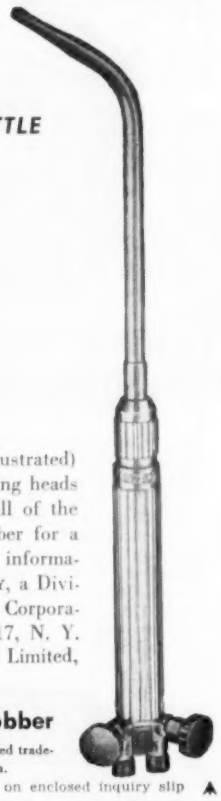
Plants in: Baltimore, Md.; Houston, Texas; and Whittier, California
Sold direct from factory branches and warehouses in all principal cities

▲ For more details circle NED-468 E7 on enclosed inquiry slip ▲

HERE'S WHY

PUROX
Trade Mark

BLOWPIPES *COST SO LITTLE TO USE AND MAINTAIN*



SELF-SEATING VALVES
Reseat scored valves when turned tight.

RUGGED HANDLE ASSEMBLY
Built for long, trouble-free service.

SLIP-FIT "O" RINGS
Perfect gas seals every time.

MIXER IN EACH HEAD
Resists backfires, eliminates burnouts.

SWAGED, PURE COPPER TIPS
Heads snap in handle. No wrench needed.

The Purox W-202 blowpipe (illustrated) is available with 13 standard welding heads and 3 multiflame heating heads, all of the snap-in type. Ask your LINDE jobber for a demonstration or write for further information. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 E. 42nd St., New York 17, N. Y. In Canada: Union Carbide Canada Limited, Toronto.

get it from your LINDE jobber

The terms "Purox" and "Linde" are registered trademarks of Union Carbide and Carbon Corporation.

▲ For more details circle NED-469 E7 on enclosed inquiry slip ▲

TYPE "U" DRIV-LOK PIN

FEED EITHER END

Permits Automatic or Faster Hand Feeding

Identical ends of the Type "U" DRIV-LOK Pin have a short pilot which permits easy insertion of *either end* into the hole. Result: Type "U" Pins can be fed automatically, or, because the operator need not examine the pin before insertion, manual feeding is faster and easier. Full length parallel grooves provide maximum locking effect. Typical applications include keying gears, collars, knobs, handles to shafts.

Write for the NEW DRIV-LOK Catalog. Contains full details on DRIV-LOK Grooved Fasteners.

DRIV-LOK PIN COMPANY
Established 1935
717 Chauncy Street, Sycamore, Illinois

▲ For more details circle NED-470 E7 on enclosed inquiry slip ▲

Direct course to wire-rope savings—

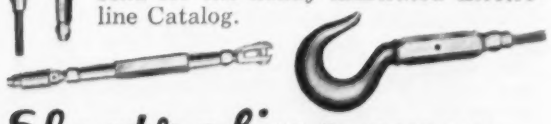
Electroline
wire rope fittings

A powerful gripping device that

- **hangs on for keeps, the greater the load, the tighter it holds**
- **damps rope vibration—protects against failures**
- **goes on in a jiffy—no molten metal, no acids, no special tools—**

. . . there you have the secret of savings built into Electroline Wire Rope Fittings.

Whatever the need, Electroline has an answer for it. Easy to get all the facts: send for the handy illustrated Electroline Catalog.

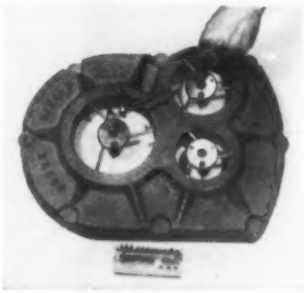


Electroline **COMPANY**

4121 SOUTH LASALLE STREET • CHICAGO 9, ILLINOIS
In Canada: Powerlite Devices, Ltd., Toronto

▲ For more details circle NED-471 E7 on enclosed inquiry slip ▲

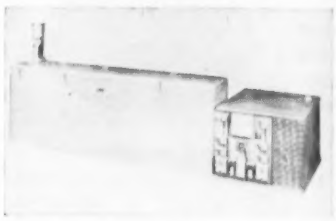
CENTER FINDER
models for 1 to 15½-in. holes



An accurate and rapid method of establishing the centers of machined holes is provided by this center finding tool. Turning an Allen wrench projects three accurately machined pins to make contact with inside wall of the hole. Pins are locked in place with a thumb screw. Divider point and trammel can be used on the center button of the tool. Striking insert transfer punch marks center of holes in parts with solid bottom. Tool is made in standard sizes for hole diameters from 1 to 2½ in. and 2½ to 6½ in., and jumbo size for 6½ to 15½ in. Special units can be supplied for holes up to 48 in. diameter. Made by **C & B Tool & Machine Co.,** Dept. NED, Box 124, La Grange, Ill.

▲ For more details circle NED-472 E7 on enclosed inquiry slip ▲

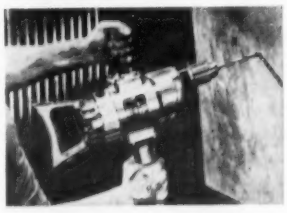
SUBZERO CHILLING MACHINE
for hardening stainless steel



Desired properties of stainless steel are obtained by method of subzero quenching in a model 3SR-120-47 chilling machine. It has a 47-cu ft chamber and a net thermal capacity of about 6000 Btu per hour at 120° F. Using convection fluid, it will chill 250 lb of steel per hour from +80 to −120° F. Wide range temperature adjustment is built in. Chilling chamber area is 120 x 18 x 36 in. Compressors are belt-driven by two 5-hp, 440-v, 60-cycle, three-phase motors. Made by **Cincinnati Sub-Zero Products,** 3930 Reading Rd., Cincinnati 29, O.

▲ For more details circle NED-473 E7 on enclosed inquiry slip ▲

PORTABLE ELECTRIC DRILLS
½, ⅝ and ¾-in. models offered



Ample power to maintain both torque and speed under load, three-position reversing mechanism which drives with equal power in either direction and positive key-drive chuck which permits slipless operation in either direction are features of three new portable electric drills. The ½-in. heavy duty model has a starting torque of 90 lb-ft, while the ⅝-in. heavy duty model has 130 lb-ft and the ¾-in. standard model has 160 lb-ft. Hardwood capacities are 1½, 1¾ and 2-in. respectively. Centrifugal fans ventilate all models. Drills have a spade type handle and an auxiliary pipe handle and weigh 15¾, 16¼ and 17¼ lb. Made by **Black & Decker Mfg. Co.,** 762 E. Pennsylvania Ave., Towson 4, Md.

▲ For more details circle NED-474 E7 on enclosed inquiry slip ▲

INDUSTRIAL OVENS
for drawing, drying, baking, curing

Close heating chamber gradients of ±3° F are made possible in line of Turbo - Convection industrial ovens by muffle - directed forced convection and recirculation, fan construction, proper controller selection, adjustable fresh air inlet and exhaust vents and correct insulation. Applications include tempering, normalizing and drawing of ferrous and nonferrous metals; drying of ceramics; mold drying; welding rod storage; chemical processing; curing of rubber; and paint baking. Six models range from 225 to 1000° F and 4.75 to 27 cu ft. Stands, heavy shelves, temperature controllers and timers are options. Made by **L & L Mfg. Co.,** 258 Eighth St., Upland, Del. Co., Pa.

▲ For more details circle NED-475 E7 on enclosed inquiry slip ▲

***New!* "TRICO-MIST" COOLANT SYSTEM**

FOR DRILLING — TAPPING — MILLING — SAWING — GRINDING, ETC.

- *Portable*
- *Efficient*
- *Inexpensive*

Removes heat from cutting edges of tools and work. Feeds can be increased considerably, finer finishes and accuracy are obtained. TRICO-MIST absorbs heat, thereby quenching it faster than flood coolants which only transfer it. Chips slide freely up the tool face and are blown away automatically. Simple needle valve controls size and volume of mist spray. Unit attaches to shop air line, (25 to 150 lbs.)

- *Speeds and production are increased.*
- *Tool life is increased—stay sharp longer.*
- *Permits heavier roughing cuts—saves time.*
- *Cutting saws last 80% longer.*
- *Diamond wheels last 5 to 10 times longer.*
- *Prevents thermoplastics from welding to tools.*
- *One gallon coolant lasts 14 hrs., average use.*
- *Available with one and five gallon containers — single or multiple outlets — single or dual valve control.*

SEND FOR FREE BULLETIN NO. 37-A

TRICO FUSE MFG. CO. MILWAUKEE, WIS.

▲ For more details circle NED-476 E7 on enclosed inquiry slip ▲

SONO-GRIP!

Sono-Grip—the non-skid surfacing—is applied like paint to walkways, steps, and other slippery areas to prevent costly, painful accidents. It is applied with a brush, over painted or unpainted surfaces, indoors or outdoors. Resistant to oil, grease and many acids. Provides sure footing on smooth, dry, wet or oily surfaces. Comes in attractive safety colors: Red, green, yellow, and gray!

A Product of **Sonneborn** RESEARCH

For over 50 years manufacturers of quality building products
404 Fourth Ave., New York 16, N. Y.

MAIL COUPON FOR FURTHER INFORMATION

L. SONNEBORN SONS, INC.
Building Products Division, Dept. N5
404 Fourth Ave., New York 16, N. Y.

☐ Yes, I would welcome full particulars on Sono-Grip.
☐ Please see that I receive your Building and Maintenance Handbook with 125 pages of important information.

Name.....
Company.....
Address.....
City..... State.....

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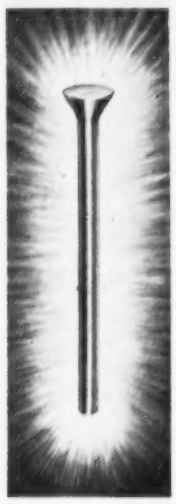
Now! Standardized Punches at 60% savings



A standardized, centerless ground perforating punch that gives you immediate savings!

Here's Why!

ACCURACY — Centerless ground to within .0002" in diameter!

QUALITY — A special, high carbon steel insures tough, lasting durability!

ECONOMY — Standardization means smooth high speed turn-out . . . at only 40% of the cost of making your own!

DELIVERY — Large stock of high carbon punches in many sizes, means shipment the SAME DAY that your order is received!

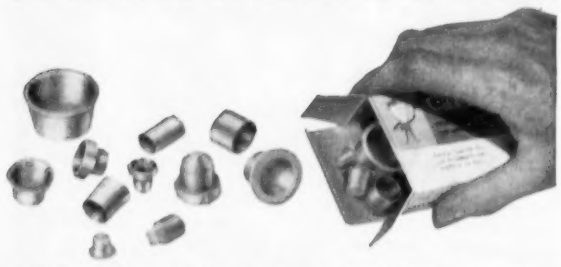
Hundreds have standardized with ROSS high carbon and HIGH SPEED STEEL perforating punches. Write, today, for a FREE punch sample and descriptive literature!

ROSS

ROSS EQUIPMENT CO., INC.
83 College Ave. Rochester 7, N. Y.

For more details circle NED-478 E7 on enclosed inquiry slip

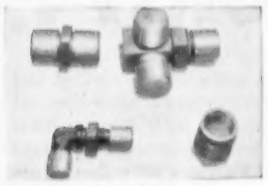
a free CaPlug assortment like this



will give you dozens of ideas for protecting products like these

JUST PUSH THEM IN . . . OR PUSH THEM ON
Tapered (non-threaded) CaPlugs can be used as caps or plugs, inside or outside of threaded or plain fittings. Made of tough, flexible Polyethylene, CaPlugs are unaffected by most chemicals, acids and solvents . . . will not collapse, chip, break or shred.

"KID GLOVE" PROTECTION WITH A DUAL PURPOSE
Here's how Resistoflex Corp. uses CaPlugs "to protect critical threads and machined surfaces and to keep the interiors of hose assemblies clean." Says Resistoflex, "CaPlugs prove most effective for both functions as well as being particularly easy to install."



COUNTLESS USES BY THOUSANDS OF USERS
Bell Aircraft Corp. applies both threaded and non-threaded CaPlugs to a wide variety of parts (such as these) in the manufacture of guided missiles, electronic components, rocket engines and servomechanisms. With numerous styles stocked in over 500 sizes, CaPlugs are readily available to answer practically every closure need.

MAKES A PRODUCT LOOK ITS "SUNDAY BEST"
On this Alemite Accumatic Valve, colorful red CaPlugs add snappy eye appeal and indicate care of manufacture. Says Stewart-Warner Corp., "CaPlugs help impress the customer with the steps that have been taken to protect the equipment and convince him of the continuing need for protecting lubricants against contamination."

MAIL THIS COUPON FOR FREE SAMPLES

CAPLUGS DIVISION
PROTECTIVE CLOSURES CO., INC.
2209 Elmwood Ave., Buffalo 23, N. Y.

RUSH free assortment of CaPlugs, literature and prices to us.

NAME _____ TITLE _____
FIRM _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

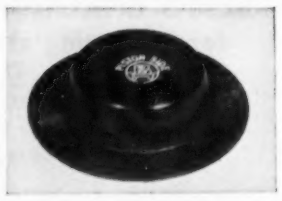
For more details circle NED-479 E7 on enclosed inquiry slip

ROTARY SLITTING SHEAR handles 24 to 10-gage sheet stock

Sheets or coil stock from 24 to 10-gage can be slit at speeds up to 60 fpm by model 1025 heavy duty rotary slitting shear. Machine's throat is 25 in. deep, and minimum width of cut is 1½ in. Antifriction roller guide rail is adjustable and can be locked in place. Hollow-ground hardened tool steel slitting blade is reversible. Machine's housing can be adjusted from 32 to 26 in. high and can be leveled as well. Manual overload switch protects motor. Made by **Flagler Corp.**, 19315 Filer Ave., Detroit 34, Mich.

For more details circle NED-480 E7 on enclosed inquiry slip

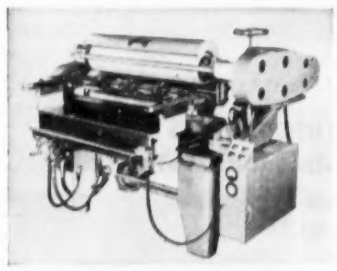
DIAPHRAGM SEAL is silicone impregnated glass fabric



Capable of functioning within a temperature range of −80 to 500° F, glass diaphragm seals are made by combining glass fabric with silicone rubber. Although still in the pilot state, one of these diaphragms with a cylinder bore dimension of 20 in., height of ½-in. and a 5/16-in. stroke delivered 250,000 cycles at 500° F. Developed by **Bellofram Corp.**, 105 Blanchard Rd., Burlington, Mass.

For more details circle NED-481 E7 on enclosed inquiry slip

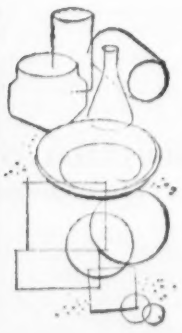
GLAZER & MIRROR FINISHER surface finishes blades, handles



Any surface finishing operation on flat or contoured blades and handles can be performed on the standardized model 402 glazer and mirror finisher. It can be converted to an edger quickly. Safe operation is assured as body contact with an emergency bar simultaneously opens rolls and stops machine. When work rack is withdrawn, the rolls open automatically. Visible ammeter and pressure gage accurately correlate roll contact pressure, thereby precluding burned work. Adjustments can be made without stopping the machine. Operating depth is 14 in. and stroke is 74 in. Made by **Clair Mfg. Co.**, 1003 S. Union St., Olean, N. Y.

For more details circle NED-482 E7 on enclosed inquiry slip

Extreme thermal shock has little effect on VYCOR brand glasses.



Can this glass answer any problem of yours?

Heat? VYCOR® brand glasses withstand temperatures as high as 1300° C. (in intermittent service).

Ultraviolet transmission? VYCOR brand glasses are available for ultraviolet transmittance at 365, 254, or 185 millimicrons.

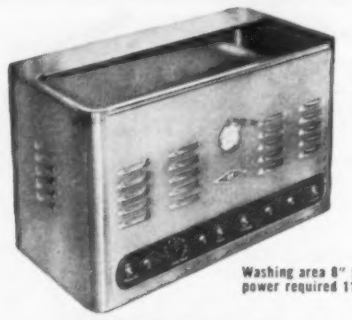
Infrared transmission? VYCOR brand glasses will transmit infrared up to 3.5 microns—with or without transmission of visible light.

VYCOR brand glasses are resistant to most chemicals, have high electrical resistivity and low dielectric loss.

WRITE FOR BULLETIN B-91. Contains charts, tables and complete information about all 7 VYCOR brand glasses.

CORNING GLASS WORKS
56-5 Crystal Street, Corning, N. Y.
Corning means research in Glass

For more details circle NED-483 E7 on enclosed inquiry slip



Washing area 8" x 8" x 8"; power required 115V 60 cycles.

Compact "PACKAGE" Unit cleans Parts ULTRASONICALLY in Seconds

The Curtiss-Wright Ultrasonic Washer WB1-5 provides an improved parts cleaning method which meets today's higher standards, closer tolerances and ultra-precision design of component parts. Now practical for all types of production parts washing, this self-contained stainless steel unit *super-cleans* all dirt and grease away in mere seconds, even the most complicated or "problem" shapes having grooves and hollow areas. Space-saving, safe to operate and low in cost, the WB1-5 can effect a saving of up to 75% over conventional parts cleaning methods. Our engineers will arrange demonstrations.

INDUSTRIAL AND SCIENTIFIC PRODUCTS DIVISION
CURTISS-WRIGHT
CORPORATION · CALDWELL, N. J.

CANADIAN REPRESENTATIVE: CURTISS-WRIGHT OF CANADA LIMITED, MONTREAL

For more details circle NED-484 E7 on enclosed inquiry slip

EXTREMULTUS

NO DRIVE TOO TOUGH!

In its first year on the U. S. market,

EXTREMULTUS BELTING,

a laminate of leather and plastic, is out-performing and replacing existing V-belts, chains and flat belts everywhere!

- Speeds up to 10,000 feet per minute!
- Ratios as high as 20:1, with arcs of contact as low as 90°!
- Unexcelled elasticity — soaks up shock!
- From 1/10 to 6000 HP!
- Runs on standard pulleys!
- Greatly reduced bearing loads!
- Freedom from stretch eliminates take-up!
- Widths a fraction of belts replaced!

Immediate delivery from stock on standard sizes

Name your drive problem — let EXTREMULTUS solve it! Write *today!*

EXTREMULTUS, INC.
405 Lexington Ave., New York 17, N. Y.

For more details circle NED-485 E7 on enclosed inquiry slip

FLEXIBLE STORAGE

Independent and self-contained, they readily accommodate to changes in stock requirements. Easily relocated; no bolting. You get more into less space; you save time in storing and issuing with Brown Section Racks. Iron and steel construction. Can't burn, warp, sag. Never wear out. Eliminate safety hazards. Act now! Write for complete specs and prices on models and sizes. Brown Engineering Co., 129 N. 3rd Street, Reading, Pa.

BROWN QUICK-SERVE RACKS

For more details circle NED-486 E7 on enclosed inquiry slip

PALMGREN

Used in all industries . . . everywhere

This catalog shows the most complete line of work holding tools available anywhere for production on milling machines and drill presses . . . angle vises . . . drill press vises . . . swivel machine vises . . . adjustable angle plates with or without swivel bases . . . production vises . . . heavy duty angle vises . . . rotary and indexing tables for use on milling machines and drill presses . . . milling attachments for milling on lathes.

There are 68 different models and types of Palmgren vises, rotary tables, milling attachments and other machine tool accessories, with jaw sizes from 1½" to 8". Ask for your copy of this FREE Catalog No. 205 today, showing the complete line, details and prices.

125

CHICAGO TOOL and ENGINEERING CO.
8378 SOUTH CHICAGO AVE. • CHICAGO 17, ILLINOIS

▲ For more details circle **NED-487 E7** on enclosed inquiry slip ▲

OUTPERFORMS and Out Values all lift trucks in its class

Regardless of Price!

ENGINEERED YEARS AHEAD

- Complete bearing control throughout
- Synchronized 12-volt heavy duty system
- Feather-controlled stops
- Equipped with automatic charger and heavy duty industrial battery
- Self-aligning dual floor brakes

OPERATES IN 28" AISLES

APPLICATIONS

- Hydraulic loading, unloading, stacking, moving, any type of material . . . in large or small plants.

MORE THAN 40 BIG JOE MODELS

- Range up to 2000 lbs. capacity
- Lifting heights to 130"

NEW 24-PAGE CATALOG

In-Between Handling is our business! Write for our new 24-page catalog.

THROUGHOUT THE WORLD

Export Division: 400 West Madison St., Chicago

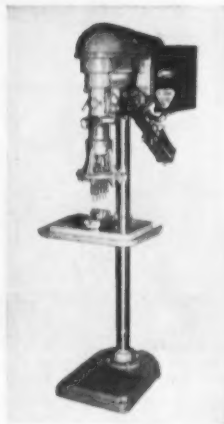
MAIL COUPON

BIG JOE
MANUFACTURING CO.
Industrial Rd.
Wisconsin Dells, Wisc.

©1957

▲ For more details circle **NED-488 E7** on enclosed inquiry slip ▲

TAPPING-DRILLING MACHINE for single and multiple spindle use is designed for automatic operation

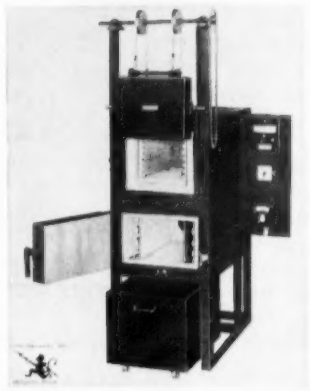


Switch controlled to alternate between tap and drill positions for either right or left hand operations, this Renco-Air tapping-drilling machine is adaptable for either single or multiple spindle use. Air-controlled spindle feed allows automatic or semiautomatic cycling as well as thread chasing. Checking action on reversal prevents pulling the last threads.

Speed range is from 80 to over 8000 rpm. Maximum capacities in mild steel for taps are four ⅜-in. threads, six or more, 10-32; and ⅝-in. single spindle. Drill capacities are four 5/16-in. holes; six or more, 3/16-in.; and ⅝-in. single spindle. Machine drills to center of a 15-in. circle, with 4-in. spindle travel. Standard equipment includes an 11 x 16-in. table and a high-reversal 220-v 3-phase motor. Made by **Renco-Toledo, Inc.,** Dept. NED, 3358 W. Alexis Rd., Toledo 13, O.

▲ For more details circle **NED-489 E7** on enclosed inquiry slip ▲

HARDENING & DRAWING FURNACES of 2300 and 800° F capacities are combined into one space-saving unit



Independent hardening and drawing furnaces are combined into one unit in series 8055 Space-Saver combination models. Both furnaces have independent controls. The hardening furnace is available in both 2000° and 2300° F ranges, while the drawing furnace has maximum temperature of 800° F. Chamber size ranges from 6 x 6 x 12 to 18 x 18 x 36 in. with ratings of 3.5, 6.5, 13 and 25 kw. These units operate on 220 or 440-v single-phase or three-phase current.

High temperature furnace includes automatic controller, counterbalanced vertical lift door, cast hearth plate and heavy duty metallic elements of low watt density. Low temperature furnace has automatic controller, motor and fan assembly, horizontal swing type door and stainless steel inner lining with shelf brackets. Quench tanks are included with all but the largest standard model. Made by **Lucifer Furnaces, Inc.,** Route 611, Neshaminy, Pa.

▲ For more details circle **NED-490 E7** on enclosed inquiry slip ▲

The OFFICE VALET

(Above) No. 3U. 4'3" long, capacity, 12.

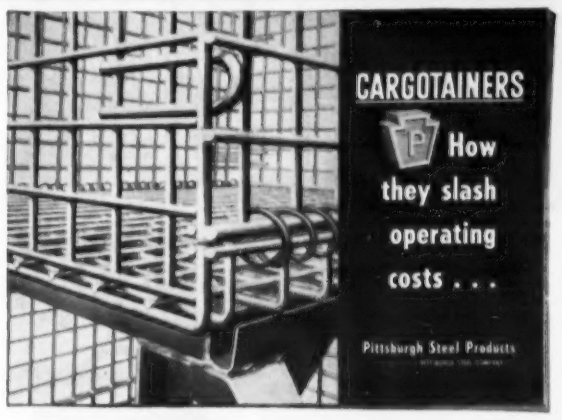
Office Valet Wardrobe Racks keep employees' wraps spaced apart, aired, dry and "in press." They end locker room evils—end crushing of damp clothing in dark lockers and the accumulation of locker debris. They encourage health, discourage theft, build morale and save floor space. Valet units snap-lock together to fit any available space or to give any desired capacity. Accommodate 3 employees per running foot with a coat hanger, hat space, umbrella stand and overshoe shelf. Strongly built of welded furniture steel. Beautifully finished in baked enamel.

No. S-6. Non-tipping costume, capacity 6.

Write for Bulletin OV 8

VOGEL-PETERSON CO.
1121 W. 37th St. • Chicago 9, Ill.

▲ For more details circle **NED-491 E7** on enclosed inquiry slip ▲



Free Booklet on Cargotainers®

A new 44-page illustrated booklet gives many case histories of how manufacturers reduced operating costs through use of Pittsburgh Cargotainers in their materials handling. Also given are sizes and capacities for standard and special models of these strong, sturdy welded wire mesh containers, plus information on welded mesh pallets and railroad bulkheads. Write for your copy today.

Pittsburgh Steel Products
a division of **Pittsburgh Steel Company**
Grant Building • Pittsburgh 30, Pa.

▲ For more details circle **NED-492 E7** on enclosed inquiry slip ▲

How to cut costs on your special threaded fasteners

The special steel collar screw above was originally cut from bar stock. This meant numerous machining operations and considerable scrap.

Cleveland now cold forms this screw at 20% less cost to the customer, while holding the specified .005 in. tolerance.

A big advantage of cold forming is material savings. Almost all the metal in the working slug is present in the finished part. Furthermore, cold forming improves physical properties, often permitting use of a less expensive, lower carbon steel—or a smaller part.

Send us your specifications or write for a copy of our folder "Specials by Specialists."

THE CLEVELAND CAP SCREW COMPANY
4444-18 Lee Road, Cleveland 28, Ohio

Warehouses: Chicago • Philadelphia • New York • Providence • Los Angeles

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"I don't blow my fuse so often since I use ECONOMY FUSES"

Especially Economy Delay and ECON, that save tempers, save time, cut down shut-downs—because they eliminate unnecessary blowouts from temporary and harmless overloads. Underwriters' Laboratories approved. Send for "complete data" bulletins.

ECON® dual-element cartridge fuses give you dual-protection

1349

ECONOMY FUSE & MFG. CO. 2717 Greenview Ave., Chicago 14, Ill.

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Another Winning Combination...

This J-E Solenoid Valve unfailingly controls water flow to pulverator . . . holds water costs to a minimum . . . permits maximum operating efficiency.

Engineers the country over are finding thousands of uses for this versatile time and money saving solenoid valve. Dependably controls flow of water, air, light oils, Freon 12 and 22, brines, industrial gas, 5 lb. steam, ammonia, etc., 1 to 250 p.s.i.—0 to 225°F. Installed in any position.

Let us demonstrate how J-E Solenoid Valves can solve *your* flow control problems. For FREE catalog and complete details,

Phone, wire or write, Controls Division -51

JACKES-EVANS MANUFACTURING CO.
4427 Geraldine Ave. • St. Louis 15, Mo.

For more details circle NED-495 E7 on enclosed inquiry slip

cut production costs with SEL-LOK spring pins

SEL-LOK spring pins materially reduce production costs, because you simply drive them in plain drilled holes with either hand or automatic assembly tools. They eliminate expensive close-tolerance tapping, reaming, peening and milling operations, with the associated rejects and waste. Once a SEL-LOK is installed, it stays put—the hollow split tube flexes to absorb vibration and shock. SEL-LOK spring pins are available at your authorized industrial distributor's in sizes ranging from 1/16 by 3/16 to 1/2 by 5 in., in heat treated alloy or corrosion resistant steel. Write us for Bulletin 2014 and samples. Sel-Lok Spring Pin Division, STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

STANDARD PRESSED STEEL CO.
SEL-LOK SPRING PIN DIVISION **SPS** JENKINTOWN PENNSYLVANIA

For more details circle NED-496 E7 on enclosed inquiry slip

Saves floor space!

Multiple Dipping with LANDAHL CONVEYOR

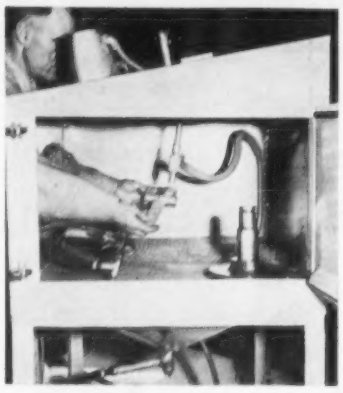
Sharp dips and turns are features of this installation. The Landahl Chainless conveyor furnishes both horizontal and vertical turns on a minimum radius of 24 inches. The conveyor carries metal products through a cleaning operation consisting of a series of dip tanks only 6 feet long. It then continues through drying oven to take-off point.

Write today for bulletin LS-1.

The LANDAHL CONVEYOR CO., 13116 Athens Ave., CLEVELAND 7, OHIO
A SUBSIDIARY OF THE AMERICAN MONORAIL COMPANY

For more details circle NED-497 E7 on enclosed inquiry slip

SANDBLAST CABINET
uses mounted or hand blast gun



Either an adjustable mounted blast unit or a trigger-controlled hand blast gun can be used in this sandblast cabinet. Suitable parts are production sandblasted by the mounted unit. Operator can use the optional hand gun to reach angles and crevices that are not easily reached with a fixed unit. Mounted unit can be raised or lower for blasting, or raised out of the way. Blast action is by foot valve. Made by **Cyclone Sandblast Equipment,** Dept. 3DD, 42 Clara St., San Francisco 7, Calif.

For more details circle NED-498 E7 on enclosed inquiry slip

STATIONARY PLATFORM LIFT
in up to 8000-lb capacities

Self-contained 500, 1000 and 2000-lb capacity stationary Powr-Lift platform lift operates on 110-v ac. Capacities up to 8000 lb are available. Platforms are made in 24, 30, 42 and 48-in. square sizes and raise to 60, 72 and 96-in. heights with one-piece masts, and to 120, 144, 168 and 192-in. heights with spliced masts. Platform-down height is 3½ in. Unitized fluid power drive assures smooth lifting. Accessories include fail-safe platform device, platform side thrust rollers, remote control and momentary contact control, and removable and fixed guard and screens. Made by **Langley Mfg. Co.,** Dept. NED, 920 Cambridge St., Cambridge, Mass.

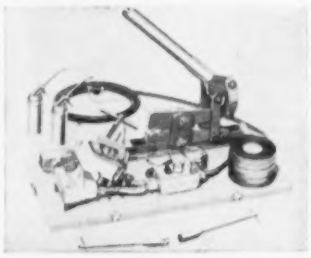
For more details circle NED-499 E7 on enclosed inquiry slip

PRESSURE CONTROL
dual switch differential type

Accurate control of pressure differential between two pressure or vacuum sources is possible with the type J27KB dual switch. Switches have separate uncalibrated adjustment screws and are actuated when the pressure on the "high" side exceeds that on the "low" side by preset amounts. Setting them together simulates double-pole circuitry. Seven models have system differentials up to 90 psi. "On-off" differentials between limits of 1 in. mercury and 5 psi are obtainable. Normally open, normally closed and double-throw with no neutral position are types offered. Ratings are up to 15 amp at 115 or 230 v ac-dc and 20 amp ac. Made by **United Electric Controls Co.,** 79 School St., Watertown 72, Mass.

For more details circle NED-500 E7 on enclosed inquiry slip

PORTABLE CABLE SPLICER
vulcanizes splices in 5 minutes



Permanent, flexible waterproof and shock-proof neoprene insulated cable splices can be produced by this portable 110-v splicing kit. Cable insulation is stripped back and bare ends are inserted in furnished copper tube prior to crimping. An inner sleeve placed over the kit eliminates voids and keeps the splice flexible. An outer sleeve is vulcanized to the cable jacket to prevent moisture entry. Conductivity is as good as the cable. Splice is only slightly larger than the cable itself. Included are crimping press, cable cutter and vulcanizing mold. Made by **Empire Products, Inc.,** Cam-Lok Div., Dept. E-23, Box 98, Cincinnati 36, O.

For more details circle NED-501 E7 on enclosed inquiry slip

AUTOMATIC FLOW
with Work-O-Matic* box and stand

TEAMING the Work-O-Matic drop-bottom box with Union Metal's specially designed positioning stand means uninterrupted feeding of parts-in-process at proper working level. Result—operator and machine receive a continuing supply of materials . . . no waiting . . . no lost production . . . no stoop, stretch or bend.

In addition, Union Metal offers industry's broadest line of conventional type material handling containers. Write for complete catalog information. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL
Material Handling Equipment

For more details circle NED-502 E7

ON VOLTAGES UP TO 600 .

There's .. BUSS F to fit t

BUSS One-Time Fuses

. . . save users time and money because they can be depended upon to operate as intended under all service conditions.

BUSS Super-Lag Renewa

have vanta other fuses bec prevent int of service needless blow

BUSS Clear Window Plug Fuses

— one-piece body and "safety" design guarantees protection. They are more convenient too because a blown fuse can be seen even when the light is poor.

FUSETRON Dual-Element

— protect aga circuits and o and safely re less blowing.

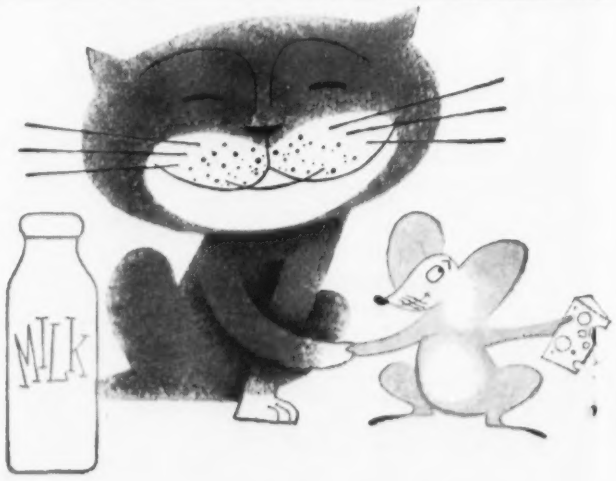
BUSS Hi-Cap Fuses

for loads above 600 and up to 5,000 amps. When coordinated with Fusetron fuses they will not open ahead of the fuse nearest fault.

0 to 14 Ampere BUSS

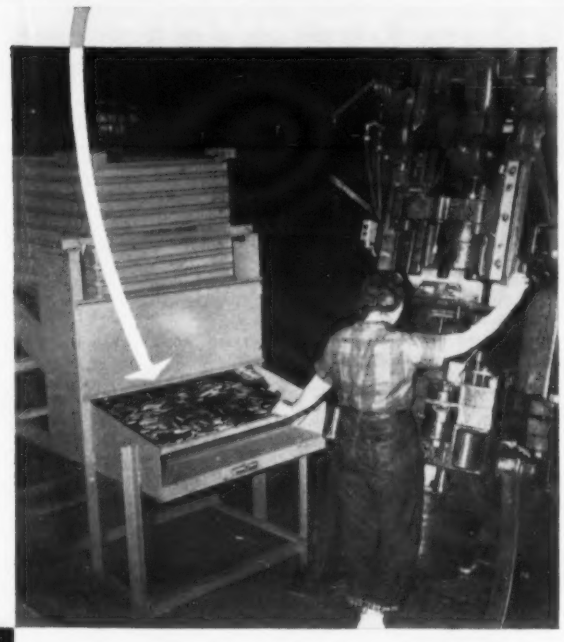
protect motors and app voltages up to 125 amp burnout. They have the writers' approval for bo running and short-circu tion.

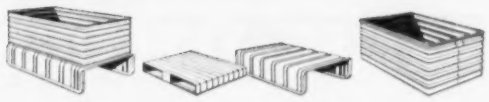
For more details circle NED-503 E7



EVERY TYPE--EVE
SKF
Ball Bearings
Cylindrical Roller
Spherical Roller Be
Tapered Roller Bea
* Reg. U.S. Pat. Off. Tyson
SKF INDUSTRIES, INC., PHILADEL

For more details circle NED-504 E7





*Patent No. 2,445,038

cle NED-502 E7 on enclosed inquiry slip ▲

There's a Safe and Dependable
BUSS Fuse or Fusetron Fuse
o fit the needs of every user

r-Lag Renewable Fuses
have a big advantage over other renewable fuses because they prevent interruptions of service caused by needless blows.

FUSETRON Dual-Element Fuses
do more than protect against short-circuits—they abolish needless blows—protect motors & equipment against burnout—permit use of proper size switches and panels—protect switches and panels against damage from poor contact heating.

Dual-Element Plug Fuses
— protect against short-circuits and overloads — and safely reduce needless blowing.

BUSS Fustats (have type S base)
— Like Fusetron fuses they stop needless blows — but their type S base prevents anyone from replacing them with penny or substitute, or using a size too large to protect.

Ampere BUSS Fustats
otors and apparatus of p to 125 amp. against They have the Underproval for both motor- nd short-circuit protec-

BUSS and FUSETRON Small Dimension Fuses
for protection of TV, Radio, Instruments, Radar, Avionics and Electronic Equipment. A complete line of fuses is available. Made in Dual-Element (slow-blowing), Renewable and One-Time Types in sizes from 1/500 Amp. up . . . plus a companion line of fuse clips, blocks and holders.

BUSSMANN MFG. CO. (Div. of McGraw Electric Co.)
University at Jefferson, St. Louis 7, Mo.

cle NED-503 E7 on enclosed inquiry slip ▲

Good deal

For a good pillow block deal
Try the SAF with Triple Seal
That keeps out dirt, retains grease--
Lives of bearings greatly increase.
Self-aligning to the correct position
Operate well under any condition
So eliminate those production stops
Get SKF SAF Pillow Blocks. 7749

RY TYPE--EVERY USE
ll Bearings
lindrical Roller Bearings
herical Roller Bearings
pered Roller Bearings ("Tyson")
U.S. Pat. Off. Tyson Bearing Corporation
C., PHILADELPHIA 32, PA.

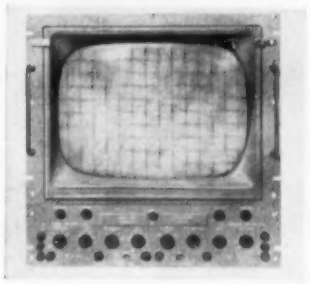
rcle NED-504 E7 on enclosed inquiry slip ▲

PLASTIC CONTROL KNOBS
line includes military types

Four plastic knobs have been added to the line of stock molded knobs of this company. Made of hard, durable thermosetting materials, knobs are available with slotted or socket type set screws as well as other mountings. Knobs 155, 165 and 175 are made in various colors and can be equipped with decorative metal inserts. They are particularly suited for use on appliances. Knob RB-90120 meets military requirements, as does knob RB-31 which has been redesigned with a metal insert for ¼-in. shaft. Made by **Rogan Brothers,** 8011 N. Monticello Ave., Skokie, Ill.

▲ For more details circle NED-505 E7 on enclosed inquiry slip ▲

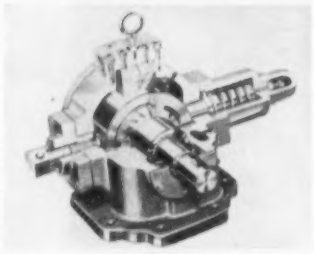
17-IN. OSCILLOSCOPE
magnetic deflection type instrument



Detailed observation of large quantities of data or complex signals is possible with the type FT-1735 magnetic deflection oscilloscope. The 17-in. screen instrument has close control over linearity and orthogonality and obviates need for expanding a portion of the wave form for detailed analysis, although a 2-to-1 magnification is available. Suited for production testing, telemetering circuit observation, computer "read out" and similar applications, it has a range from direct current to 100 kc. Rack mounting and console models are offered. Made by **Federal Telephone & Radio Co.,** 100 Kingsland Rd., Clifton, N. J.

▲ For more details circle NED-506 E7 on enclosed inquiry slip ▲

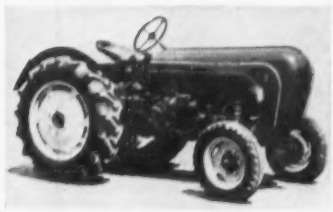
VARIABLE VOLUME PUMP
delivers up to 40 gpm at 1250 psi



Volume selector is standard equipment on the model R variable volume hydraulic pump for adjusting the delivery to exact circuit requirements. The JIC-standard, subplate mounted unit is suited for use in machine tool feed systems, hydraulic presses and mobile equipment. It delivers up to 40 gpm at 1200 rpm and is designed for 1000 psi continuous and 1250 intermittent operation. Automatic selection of two separately adjustable pressures is obtained by use of hydraulic or electrically controlled pressure compensating pump governors. Made by **Racine Hydraulics & Machinery, Inc.,** 2089 Albert St., Racine, Wis.

▲ For more details circle NED-507 E7 on enclosed inquiry slip ▲

DIESEL TRACTORS
have air-cooled 11 to 44-hp engines



Air-cooled one to four-cylinder engines with from 11 to 44 hp are incorporated in four German-made Porsche-Diesel tractors. Also used are hydraulic clutch, four or five forward and reverse gears, hydraulic power lift, shafts to drive machinery, crawling gear, adjustable track and weight variation to meet specific requirements. Cooling air flow can be regulated so that the engine functions at the best temperature. A horn warns of an overheated engine. Tractor operates starting with third gear, using first and second gears for difficult conditions. Clutch automatically disengages the engine when an obstacle is encountered. Rear wheels can be braked individually for small-radius turning. Available from **Porsche-Diesel of America, Inc.,** Dept. V, 39 Sylvan Ave., Bridgeport, Conn.

▲ For more details circle NED-508 E7 on enclosed inquiry slip ▲

Hardness Readings in 2 seconds!

Webster
PORTABLE
Hardness Testers
FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ¼". Simple, rugged design, easy maintenance.

MODEL B Direct hardness readings on all aluminum alloys.

MODEL B-75 Direct hardness readings on copper, brass, etc.

Other models available
WEBSTER INSTRUMENT INC. DEPT. N, 11856 Mississippi Ave. Los Angeles 25, California.

▲ For more details circle NED-509 E7 on enclosed inquiry slip ▲

Rotary
OILDRAULIC POWER
Cuts the cost of lifting heavy loads

Write for catalogs
ROTARY LIFT CO., 1094 KENTUCKY, MEMPHIS, TENN.

▲ For more details circle NED-510 E7 on enclosed inquiry slip ▲

KODAGRAPH MICRO-FILE EQUIPMENT

Here's everything you need for a low-cost, trouble-free microfilming operation . . . one that will meet *your* individual requirements.

● **Kodagraph Micro-File Machines**—three separate models designed to meet a variety of conditions. *Each* a high-precision unit which can be operated by anyone.

● **Kodagraph Micro-File Film**—extremely fine grained, high resolution. Assures sharp, crisp rendering of all details.

● **Kodagraph Film Readers,** which permit you to view your films quickly, conveniently.

● **Kodagraph Micro-File Enlarger,** which enables you to make paper enlargements from 16mm. and 35mm. microfilms which are comparable in clarity to the originals.

● **Kodagraph Print Film**—ideal for making positive copies of negative microfilm records.

Write today for new booklet—"Kodagraph microfilming for new economies in record keeping."

EASTMAN KODAK COMPANY
Graphic Reproduction Sales Div.
Rochester 4, N. Y.

▲ For more details circle NED-511 E7 on enclosed inquiry slip ▲

FOR LUBRICATION APPLICATIONS IN THE "FRINGE AREA" . . .

specify MOLYKOTE® LUBRICANTS

Extreme pressure or boundary lubrication, without the participation of solid lubricants, is practically impossible.

This basic concept is the foundation upon which MOLYKOTE Lubricants have been built.

Whether we rely on solid lubricants which are already on the surface in the form of thin natural oxide films, or whether we take the necessary steps to introduce these solids on the surface or manufacture them with chemical additives, is immaterial.

To improve on nature's own defensive solids by alloying or supplementing them with more highly qualified solid lubricants is the work of MOLYKOTE, Industry's Most Versatile Lubricant.

Send today for literature.

THE ALPHA MOLYKOTE CORP.

Main Factories: 65 Harvard Avenue, Stamford, Conn.
71 Arnulfstrasse, Munich 19, Germany

7912

For more details circle NED-512 E7 on enclosed inquiry slip

SWIFT Glass Body Oil Cups

SUPPLIED FROM STOCK!

Let Swift supply you with Glass Body Oil Cups from its complete stocks. Oil Cups have polished brass finish, tough heat-and-stain resistant Pyrex glasses. Available in all standard sizes for immediate delivery.

Sight Feed & Plain Glass Oil Cups For gravity feed oiling of bearings and other points where no back pressure exists. Spring loaded slide opening on lid keeps dust and dirt from bowl.

Gas Engine Lubricators For gravity feed of oil against pressure on gas engines, blowers, vacuum pumps, low pressure air pumps.

SWIFT Glass Division
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

For more details circle NED-513 E7 on enclosed inquiry slip

Cut Fastener Costs 25% or More with Tinnerman Push-On Speed Nuts®

Start by hand... Zip down on studs!

New Tinnerman Push-On Type SPEED NUTS offer the ultimate in fastening economy and efficiency. They cost less than ordinary fasteners, eliminate costly threaded parts. These one-piece, self-locking, spring steel fasteners start by hand, zip down over integral studs, rivets, tubing, nails, any unthreaded parts. They provide a bite lock on smoothest, hardest surfaces . . . vibration-proof attachments on all popular stud sizes, round, D-shaped, rectangular. Write for literature and free production samples.

TINNERMAN PRODUCTS, INC.
BOX 6688, DEPT. 12, CLEVELAND 1, OHIO

For more details circle NED-514 E7 on enclosed inquiry slip

PRESSURE REGULATOR is adjustable from 0 to 3000 psi

Usable in laboratory gas lines or in conjunction with portable or stationary air compressors, this manually operated pressure regulator will accept stored air pressures up to 3500 psi. Single adjusting handle regulates outlet pressure throughout an infinite number of increments from 0 to 3000 psi. Flows up to 100 cfm are obtainable with relatively low pressure drops. Made by **Cornelius Co.**, 551 39th Ave. N. E., Minneapolis 21, Minn.

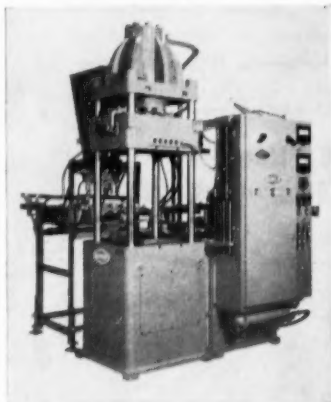
For more details circle NED-515 E7 on enclosed inquiry slip

CABLE REEL LIFT-STAND handles reels up to 48-in. diameter

Up to 48-in. diameter and 31-in. wide cable reels can be raised by one man using the improved model RL31 Reelift. Broken flange reels can be handled with ease and safety. The welded lift measures 48 in. high and 23 x 39 in. on the base. Weight is 85 lb. Unit has an increased safety factor in design. Made by **Hykon Mfg. Co.**, Dept. H, Box 923, Alliance, O.

For more details circle NED-516 E7 on enclosed inquiry slip

COMBINATION PRESS for compression or transfer molding



Hydraulic transfer cylinder added to this automatic press provides option of either automatic compression or transfer molding simply by turning a knob. The combination unit thus will perform every known function in automatic compression molding, then can be quickly changed over to transfer operations. Press features Westinghouse Cypak controls. Made by **Baker Brothers, Inc.**, Plastic Press Div., 1005 Post St., Toledo 10, 0.

For more details circle NED-517 E7 on enclosed inquiry slip

For Dependable Flow Control!

THE DAVIS NO. 60 FLOAT VALVE

. . . use

DAVIS FLOAT VALVES

ENGINEERS interested in working out efficient, trouble-free fluid level and flow control hookups will find a wide choice of units offered in the Davis line of float valves, float boxes, and fluid control valves.

For Float Valve dependability the Davis No. 60 is unexcelled. Here are a few of its outstanding features:

1. The Famous Davis Single-Seat Pilot Stem Valve! Tight-closing and non-sticking. Standard sizes will open against any pressure up to 125 lbs.
2. No internal packing! Disc renewable easily and economically. Hot or cold liquid at high or low pressure handled without hunting or water hammer.
3. Sizes 3" and smaller are all-brass valves. Larger sizes have semi-steel body, bronze bonnet, piston and trim. Globe or angle body patterns. Send for Bulletin 101-B.

Davis
DAVIS REGULATOR COMPANY
2531 South Washtenaw • Chicago 8, Illinois

For more details circle NED-518 E7 on enclosed inquiry slip

REPEAT-CYCLE ELECTRONIC TIMING

MODEL 3 provides TWO independently-adjustable time delays.

For applications such as life-testing of solenoids, relays, reversible motors and air equipment; for operating reversible feed mechanisms, automatic filling equipment, servos, and reciprocating equipment.

Features:

- Instant-starting cold-cathode tube.
- Long tube-life assured by tube cut-out.
- Standard time ranges "ON" and "OFF": 1.5, 3, 6, and 12 seconds.
- Plug-in relays for easy servicing.
- Completely enclosed in 3¾ x 4¼ x 5" case.
- Mounting: back-of-panel or bench set-up.
- Eight-ampere SPDT load contacts (non-inductive).
- Voltage: standard 105-125 a-c (25-400 cycles); 130-150 volts d-c on special order.

Write today for further information on the Farmer CK Model 3 Timer.

FARMER ELECTRIC
Products Company, Incorporated
2300 WASHINGTON ST. NEWTON LOWER FALLS, MASS.

For more details circle NED-519 E7 on enclosed inquiry slip

GEAR PROBLEMS? Check with- FAIRFIELD!

If you use gears in the product you make, we believe it will pay you, as it has others, to become acquainted with FAIRFIELD—the place where fine gears are produced to meet your specifications EFFICIENTLY, ECONOMICALLY! Fairfield's production facilities are unexcelled for making all kinds of accurate, automotive type gears such as are now finding wide use in all branches of industry: for tractors, trucks, and buses . . . for agricultural implements . . . for construction machinery . . . for machine tools. Ask for latest literature describing Fairfield's facilities. Your inquiry will receive prompt attention.

FAIRFIELD
Manufacturing Co.
2335 S. Concord Road
LAFAYETTE, INDIANA

For more details circle NED-520 E7 on enclosed inquiry slip

GET AHEAD

Stay Ahead in Your SPRAY DECORATING with Conforming Matrix

ELECTRO-FORMED NICKEL OR COPPER MASKS of all types for shielding and spraying highly intricate areas in single or multiple colors.

- Permit more shots between washings.
- Allow for reasonable dimensional differences in piece parts.
- Finger clearance affords easier loading of parts.
- Right hand tab masks free both hands for productive movements.

Send prints or sample parts, giving production requirements and results you wish to achieve.

Conforming Matrix CORPORATION
338 Toledo Factories Building • Toledo 2, Ohio

For more details circle NED-521 E7 on enclosed inquiry slip

PHILPLUG
SCREW ANCHORING COMPOUND

FIXES
L-O-O-S-E SCREWS
EVERYWHERE
and ANCHORS SCREWS TO HOLD FIXTURES SECURELY in SOLID or HOLLOW WALLS

IN SOLID WALLS
Use PHILPLUG alone in solid walls of brick, tile, concrete — any masonry material!

IN HOLLOW WALLS
Insert a PHILSTOP ahead of PHILPLUG in hollow walls of plaster, tile, plywood, etc.!

No more wobbly clamps and conduits — hooks and fixtures! PHILPLUG fixes loose screws firmly — cuts maintenance costs to a minimum! Costs less than 1¢ per hole. Simply put PHILPLUG into worn screw hole and insert screw. PHILPLUG forms a firmly molded thread from which screws may be easily removed or replaced!

And it's the fastest, most efficient way to attach fixtures — indoors and out! PHILPLUG is an Asbestos, Cementatious Compound that is impervious to moisture and becomes part of material to which it is applied. Holds immediately! In 3 sizes at all Hardware Stores and Industrial Supply Houses. Write today for FREE sample and literature.

NEW ENGLAND CARBIDE TOOL CO., INC.
55V Commercial St. Medford, Mass.

For more details circle NED-522 E7 on enclosed inquiry slip

CUTS A
BIG FIGURE
in cleaning costs

CLEMENTS
Cadillac
QUIK-VAC
MODEL 14

The powerful all-purpose Cadillac Quick-Vac makes fast work of cleaning jobs from floor to ceiling. It cleans floors (bare or carpeted) . . . picks up water . . . rids machinery and equipment of damaging dust and dirt.

Vacuums · Blows · Air Sweeps · Sprays

EXCLUSIVE 2-SPEED MOTOR (to fit job requirements)

Two-speed power unit can be instantly demounted for use as a hand-type blower-suction cleaner.

EXCLUSIVE 3-IN-1 HOSE COUPLER*
Only one swivel connector is required to connect the hose to the dirt container, or to the power unit inlet or outlet. Saves you time, trouble, money.

DOZENS OF ATTACHMENTS (optional equipment) are available for handling hundreds of cleaning, maintenance, and production jobs.

The Clements-Cadillac line also includes:
- A 2-speed portable blower-suction cleaner and three other job-rated models
- Hot and cold air blower
- Furnace blowers
- Gas blowtorch

See your nearest dealer in Industrial, Automotive, or Janitors' Supplies —or write us direct.

Several territories are available to verified factory representatives.

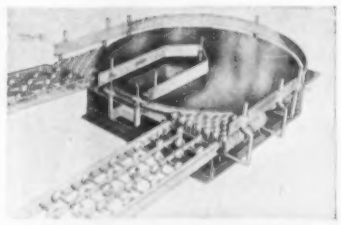
*Pat. applied for

Industrial Vacuum Cleaner Division
SINCE 1910 **CLEMENTS MFG. CO., 6627 S. Narragansett Ave., Chicago 38, Ill.**

World's largest producer of blower-suction cleaners . . . specialists in vacuum cleaning equipment for home, business and industry

For more details circle NED-523 E7 on enclosed inquiry slip

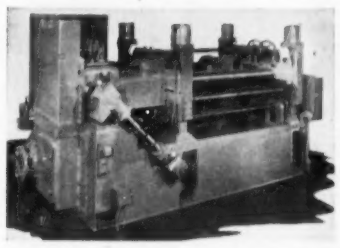
POWERED TURNTABLE
transfers at 90 or 180 degrees



For use with powered or gravity conveyors, this 48-in. diameter powered turntable transfers packages or loads at either a 90 or 180-degree turn. Its adjustable legs bring the top to any practical height. Unit is driven by a gearmotor at 25 rpm to produce about 300-fpm rotation. Disk is supported by four rubber tired ball bearing wheels. Ball bearing feeder sections assist in smooth transfer of packages. Adjustable outer and inner guards permit handling packages of varying heights. Made by **Samuel Olson Mfg. Co.**, 2423 Bloomingdale Ave., Chicago 47, Ill.

For more details circle NED-524 E7 on enclosed inquiry slip

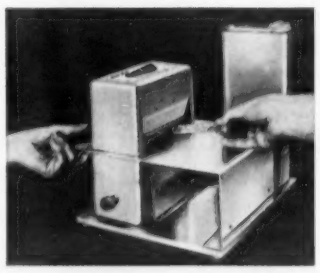
AUTOMATIC PRESS FEEDER
handles stock up to 0.125-in. thick



Coil holder, decoiling unit, mechanically controlled feeder unit and optional scrap shear comprise this automatic feed line for blanking or progressive die presses. Stock up to 60 x 60 x 0.125-in. can be fed. Line is applicable without modification to both press types and is electrically synchronized. Strip flatness can be controlled by adjusting the built-in roller leveler. Made by **McKay Machine Co.**, Box 180, Youngstown 1, O.

For more details circle NED-525 E7 on enclosed inquiry slip

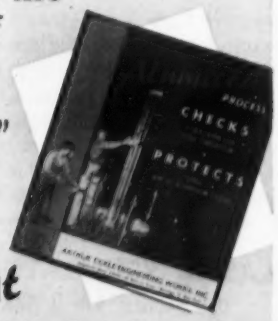
NAMEPLATE DISPENSER
activates pressure-sensitive side



Application of Therma-Cal aluminum foil nameplates is economical and fast with the Cal-Matic dispenser. The motorized applicator activates etched and anodized, pressure-sensitive nameplates, permitting operator to do entire labeling operation in a fraction of a minute. It operates silently and has lifetime lubricated motor. Dispenser rollers automatically stop if fingers or other foreign elements enter the machine, yet they accept nameplates of varying gage. Made by **North Shore Nameplate, Inc.**, Dept. NED, 214-27 Northern Blvd., Bayside, N. Y.

For more details circle NED-526 E7 on enclosed inquiry slip

Have You Seen the Advantages of this NEW "STEEL-SAVING" PROCESS!



Send today for information describing the

Alumicoat
Molten Aluminum Coating Process

Protects carbon and low alloy steels from high temperature oxidation!

In many cases, expensive high alloy strategic steels may be replaced with low alloy steels which have received the ALUMICOAT Molten Aluminum Coating Process. Under high temperature conditions, these low alloy steels would ordinarily oxidize and scale, but after the application of the ALUMICOAT Process, they have proven superior to strategic alloy steels.

For Free Alumicoat Brochure – Use Coupon below!

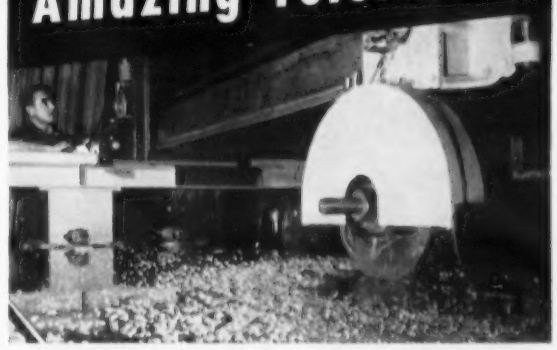
Arthur Tickle Engineering Works, Inc.
21-G Delevan Street
Brooklyn 31, N. Y.

Please send ALUMICOAT Brochure to:

Name _____
Address _____
City _____ Zone _____ State _____

For more details circle NED-527 E7 on enclosed inquiry slip

For HIGH-SPEED CUTTING TO Amazing Tolerances



Low Investment Saw Saves Hours of Machine Finishing . . . Waste Metal

For real production cutting of sheet, stock, plate, structurals, wood or plastic with clean accurate edges, investigate Ty-Sa-Man Saws. Dozens of models . . . cuts from 10" to 60 feet . . . 6" to 87" blade capacity . . . 3 to 125 HP.

Write Today For FREE BROCHURE
TY-SA-MAN Machine Company
550 WHITE AVE., KNOXVILLE, TENN.

For more details circle NED-528 E7 on enclosed inquiry slip

Mr. Hi Frequency, the Electronic

"policeman" Nabs Tramp Metal

ALLIS-CHALMERS
METAL DETECTOR

Gives Positive Protection

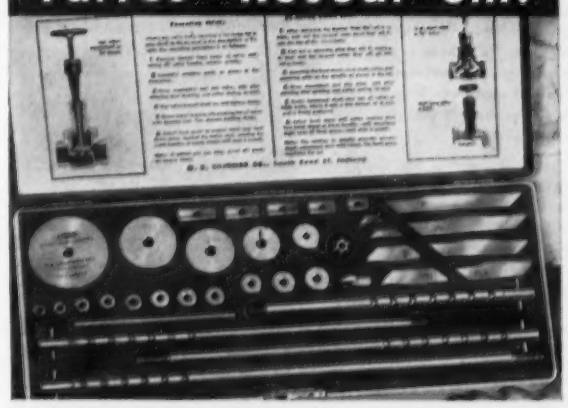
THIS electronic policeman on your production beat always protects against trouble-causing, quality-robbing tramp metal. Magnetic or non-magnetic particles, no matter how deeply embedded, cannot get past the unfailing eye of the metal detector without triggering the warning or reject mechanism.

The Allis-Chalmers metal detector is economical to operate and is easily installed in any production set-up. For complete information, contact your nearby A-C office or write Allis-Chalmers, Industrial Equipment Division, Milwaukee 1, Wis. Ask for Bulletin 15B7217B.

ALLIS-CHALMERS A-C
A-5286

For more details circle NED-529 E7 on enclosed inquiry slip

Don't junk leaky valves – Reseat 'em!



Pays for itself on the first 2 jobs!

Reseats flat and tapered seat globe or angle valves—all bibbs, faucets—quickly and accurately. The saving, over tearing out and renewing leaky valves and fixtures, is tremendous.

Cutters operating under screw feed, leave worn, scored seats glass smooth, level, absolutely tight. The cutter rotates on a level plane and is advanced by slight turns of the feed screw until the job is done.

A guide pilot centers each cutter; a tapered cone centers each spindle. Perfect alignment is inevitable. Cutters guaranteed. Write for literature!

2" for ¼" to 2" valves and ¼" to ¾" bibbs . . $47.75
3" for ¼" to 3" valves and ¼" to ¾" bibbs . . $62.50

M. B. SKINNER CO., South Bend 21, Ind.—Established 1898

For more details circle NED-530 E7 on enclosed inquiry slip

NOW Flame hardened bed ways ... STANDARD EQUIPMENT at NO EXTRA COST!

ON ALL MODELS OF
CLAUSING 12" LATHES

With the introduction of flame hardened bed ways as standard equipment at *no extra cost*, another important exclusive feature has been added to the long list of *Plus Values* that make the Clausing 12" Lathes outstanding in their price field. Write for illustrated literature, and also literature on the new variable speed drive and 12" Hydraulic Tracer Lathe.

CLAUSING DIVISION ATLAS PRESS COMPANY
5-113 N. Pitcher St., Kalamazoo, Mich.

For more details circle NED-531 E7 on enclosed inquiry slip

The versatile *Lightnin* Portable gives you your choice of mixing action

Getting the right *kind* of agitation for your product is easy with a LIGHTNIN Portable Mixer. You can adjust it to the "just right" position for any shape of tank.

A patented ball and socket swivel clamp is behind the LIGHTNIN's easy adjustment. It gives you the equivalent of *three mixers in one.* And it's guaranteed to give you exact mixing results, or your money back.

MAY BE ADJUSTED TO THREE POSITIONS SHOWN... *AND ANY INTERMEDIATE POSITION*

When the shaft is on the tank's centerline, forces are balanced and a vortex is created. Desirable for drawing down light powders but inefficient for general mixing.

With the shaft in this quadrant, a long swirl—without vortex—is created. Very little top-to-bottom turnover characterizes this type of agitation. It is suitable for washing fibers, for gas absorption, etc.

This is the recommended position for most mixing jobs. Heavy top-to-bottom turnover leads to intimate blending. The propeller stream sweeps the tank bottom and suspends solids.

Proper positioning also depends on the type of mixer you select. Complete instructions are sent with each mixer.

FREE CATALOG on Portable LIGHTNIN Mixers is yours for the asking. Just check the reader service slip for Catalog B-108. It describes the 30 available models—ranging in size from ⅛ to 3 HP—and tells how to use them most effectively.

MIXING EQUIPMENT Co., Inc.
165-e Mt. Read Blvd., Rochester 11, N.Y.

In Canada:
Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 10, Ont.

For more details circle NED-532 E7 on enclosed inquiry slip

PHOTOCOPY DUPLICATOR makes exact copy of any original

Instant copies of book or magazine pages as well as single sheets of paper containing printing, writing, pictures or other markings are produced on this model 112 photocopy duplicator. Sharp black and white reproductions are made on nonwrinkling paper for easy handling and filing. Book pages are reproduced without removing them from book. Slow negative paper permits machine's use in room light. Timer insures proper exposure. Machine will accommodate aluminum transfer offset plates which can be used to make several thousand copies. Maximum copy area is 9 x 14½ in., and original material up to 10 x 15 in. can be put in the exposure section. Made by **A. B. Dick Co.**, Dept. NEW, 5700 W. Touhy Ave., Chicago 31, Ill.

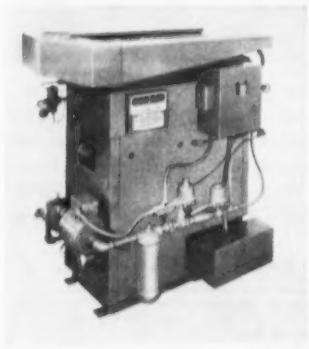
For more details circle NED-533 E7 on enclosed inquiry slip

PORTABLE SUMP PUMP handles inflammable liquids safely

Removal of sewage, sludge, chemicals, oil or water from sumps, wells, excavations, quarries and cellars is possible with this air motor driven portable sump pump. Body, impeller and strainer are made of bronze to resist rust and insure spark-free operation. Heavy duty thrust and radial bearings support the nonclogging impeller, mounted on a stainless steel shaft. Pump is 19⅜ in. high and passes through a 9 x 11-in. hole. Capacity with 100-psi air and 50 ft head is 168 gpm. Made by **Schramm, Inc.**, Dept. NED, 900 E. Virginia Ave., West Chester, Pa.

For more details circle NED-534 E7 on enclosed inquiry slip

ULTRASONIC CLEANING MACHINES operate at 40 kc frequency



Seven standard models make up the Circosonic line of ultrasonic cleaning machines for removing buffing and polishing compounds, honing and abrasive materials, chips and nonsoluble deposits from metal parts. Machines employ stainless steel-encased barium titanate transducers to transfer high peak levels of ultrasonic energy to cleaning chamber. Maximum cleaning or cavitation results at 40-kc operating frequency, with minimum energy input. Cleanliness of chamber is maintained to 10-micron efficiency through removable honeycomb filter element. Water cooling maintains optimum temperature of 140° F. Made by **Circo Equipment Co.**, Dept. P-1, Terminal Rd. & Central Ave., Clark, N. J.

For more details circle NED-535 E7 on enclosed inquiry slip

PLASTIC VENTILATORS move up to 3400 cfm of air

Line of fabricated polyethylene ventilators and exhaust systems will handle static pressures from ⅛ to 4 in. and move from 100 to 3400 cfm of air. Ventilators are stocked in 6, 8, 10 and 12-in. diameter inlet sizes. Ventilator housings, as well as the rotors are polyethylene. No metallic parts are exposed to corrosive fumes and vapors that pass through the ventilators. Made by **American Agile Corp.**, Dept. E, Box 168, Bedford, O.

For more details circle NED-536 E7 on enclosed inquiry slip

YOUR CYLINDER ORDER SHIPPED IN 24 HOURS OR LESS! —LET CARTER CARRY YOUR INVENTORY!

AIR OR HYDRAULIC
ANY MOUNT
ANY STROKE
ANY BORE SIZE

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Get your cylinders *now.* No need to lose production! Carter will *ship your cylinder order in 24 hours or less,* to satisfy your needs. And when you buy Carter cylinders, you buy quality—rugged, dependable cylinders.

Leakproof construction . . . strong key-type locking of body between tubing and heads . . . compact, space-saving design . . . *plus special delivery to you.* Get in touch with us *today* for cylinders you need *tomorrow!*

CATALOG FILE! Air Cylinders; 750 lb. Hydraulic; 1500 lb. Hydraulic; Clamp Cylinders; Air Valves; Built-in Valve Types. Complete with parts data, specifications and prices. Send today!

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(Chicago Suburb)

AIR CYLINDERS • AIR VALVES • HYDRAULIC CYLINDERS
ROTARY ACTUATORS • SPECIAL CONTROLS

For more details circle NED-537 E7 on enclosed inquiry slip

Simple—Accurate—
WEIR METERS
for Waste Measurement

● Float-and-cable Weir Meters developed by Foxboro offer simple, accurate measurement of liquid flow. Widely used in sewage, chemical processes, and industrial waste disposal.

The Foxboro Weir Meter is extremely simple. Operates through motion of float to measure head through V-notch, rectangular or Cippoletti weirs—or Parshall flumes. Motion is transmitted by cable to accurate recording or integrating mechanisms. Direct-reading, uniform flow scale—copper or plastic-covered floats.

Write for detailed information. **The Foxboro Company, 665 Norfolk Street, Foxboro, Mass., U. S. A.** Also Montreal, Canada. Branches in principal cities.

FOXBORO Reg. U. S. Pat. Off. WEIR METERS

For more details circle NED-538 E7 on enclosed inquiry slip

pump
MAINTENANCE
got you down...

Look into these MAINTENANCE-FREE pumps for general hydraulic service

- Double Mechanical Shaft Seal eliminates stuffing box attention
- Permanently Lubricated Sealed Bearings never need oiling or greasing

Heads: to 350 ft.
Capacities: 250 to 2400 gpm

For complete information, send for Bulletin 7248-A.

Ingersoll-Rand
10-584
11 Broadway, New York 4, N.Y.

For more details circle NED-539 E7 on enclosed inquiry slip

THE INTERCOM WITH THE
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NEW
TALK-A-PHONE Chief
Fulfills Every Intercommunication Need

DYNASONIC DESIGN — Permits intermixing of units, additions at any time.
MULTI-MAGIC SELECTOR — Select up to 60 stations with only 14 push buttons.
REDI-POWER — The feature that gives you reserve volume. Up to 20 watts when and as you need it.
LD "Long Distance" — No loss of volume even over cable lengths 10,000 feet or longer.

BUSY SIGNAL • PRE-SELECTED PAGING • RIGHT-OF-WAY RELAY UNI-TRANS DICTATION CONTROL • HOLD-A-MATIC CONFERENCE CONTROL • and many other exclusive, patented features.

A system for every purpose — from 2 to 100 stations. Wireless 2-Station and 6-Station Selective Wireless Intercom also available.

See your dealer or write . . .
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Dept. NE-5, 1512 S. Pulaski Road, Chicago 23, Ill.

For more details circle NED-540 E7 on enclosed inquiry slip

DOR-TITE
DA PRODUCTS SINCE 1910

for Sealing! Cushioning! Insulating! Silencing!

Here's the soft, resilient sponge rubber stripping that solves countless problems . . . around windows, doors, etc. DOR-TITE installs fast thanks to factory-applied *extra tacky* adhesive. DOR-TITE stays put . . . never stretches . . . never creeps. Available in all popular sizes.

SPONGE RUBBER for • Pads • Gaskets • Cushions • Mountings
Available in all popular sizes
FREE SAMPLES
Write on your letterhead for samples of DOR-TITE and/or SPONGE RUBBER Dept NE-5

Installs in seconds!
DURKEE ATWOOD V-BELTS

DURKEE-ATWOOD CO. Minneapolis 13, Minn.
For more details circle NED-541 E7 on enclosed inquiry slip

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Contains Chemical Reference Charts and Glove Selector Guide

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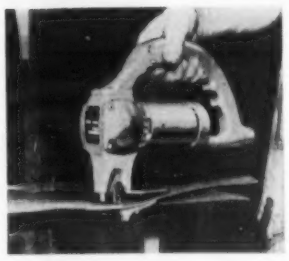
"Service for Safety"
18 STARK INDUSTRIAL PARK • CHARLESTON, S. C.
For more details circle NED-542 E7 on enclosed inquiry slip

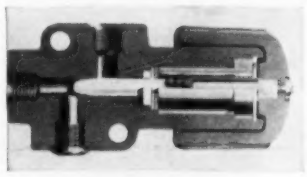
SHEET METAL SHEAR
operates at up to 30 fpm



Fast, easy cuts in all types of sheet metal and wire netting can be made with this 6¾-lb hand-held No. 16 shear. Designed with a one-piece shoe, contoured to indicate the correct cutting angle, shear will cut through cold rolled steel at up to 30 fpm speeds. Quick blade adjustment accommodates different metal thicknesses, and a deflector-plate prevents curling. Handle can be gripped in different positions for either guiding or pushing. Made by **Black & Decker Mfg. Co.**, 762 E. Pennsylvania Ave., Towson 4, Md.

For more details circle NED-543 E7 on enclosed inquiry slip

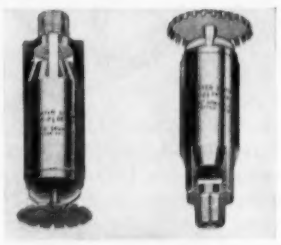
PLASTIC VALVES
meter corrosive liquids and gases



Self-draining, small plastic valves for metering corrosive liquids and gases in atomic and radiation laboratories have a universal porting design which permits easy plug removal for cleaning while installed. Nontoxic and nonflammable, valves are made from polyvinyl chloride and Penton chlorinated polyester, and are trimmed with Teflon, Kel-F and stainless steel. Micrometer-fine threads position the needle. Sizes range from ⅛ to ½-in. in female and male pipe threads, tube and hose connectors, offset straight-through and angle designs. Operating temperatures are up to 170° F for PVC and 250° F for Penton. Made by **Chemtrol Corp.**, Dept. NED, 1513 El Segundo Blvd., Compton, Calif.

For more details circle NED-544 E7 on enclosed inquiry slip

FOAM-WATER SPRAYS HEADS
combat special fire hazards

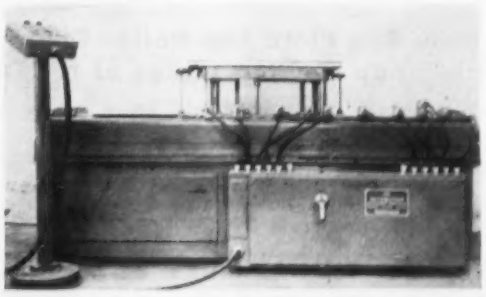


These pendent and upright sprinkler heads are designed for use in combination air foam and water spray fire protection systems. Pendent model permits use of system without re-piping, even where space is limited. The combination system first discharges a large volume of thick foam to blanket "spill" or surface fires, and then produces a water spray. Additional safety factor offered by water spray does not diminish the foam blanket protection which is maintained for about ½-hour after the water deluge. Manual controls permit change to water spray at any time during the foam discharge, and also permit laying a blanket of foam at any time as a fire preventive, without the shower of water. Made by **Automatic Sprinkler Corp. of America**, Box 360, Youngstown 10, O.

For more details circle NED-545 E7 on enclosed inquiry slip

PRESS TRANSFER MACHINE
for automation applications

This punch press transfer machine can be tooled for removing, transferring and loading parts from one work station to another. Turn-over devices can be



included. It affords accurate orientation of workpiece and can also be adapted to transfer operations between other machines. Stroke is adjustable over 42-in. length and 8 in. height. Horizontal motion is mechanical, with an adjustable electric clutch and brake. Machine can be custom-tooled for any requirements. Made by **Automation Development Corp.**, Dept. ND, 135 Reynolds Rd., Mentor, O.

For more details circle NED-546 E7 on enclosed inquiry slip

PROTECTION FOR THE HANDS OF INDUSTRY
WIL-GARD ©

TAN LATEX
Industrial Gloves

Made from natural liquid latex, processed in the Wil-Gard laboratories to give it extra high tensile strength. Noted for long wearing qualities, pliability, and curved-finger comfort. Recommended for ketones and most water solutions of acids, alkalies, and salts.

INDUSTRIAL GLOVES *Latex, Neoprene, Natural Rubber, Buna-N, Compar Plastic.* LINEMEN'S GLOVES *Natural Rubber.* FINGER COTS *Latex, Neoprene.*

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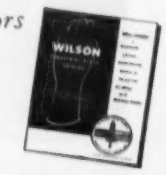
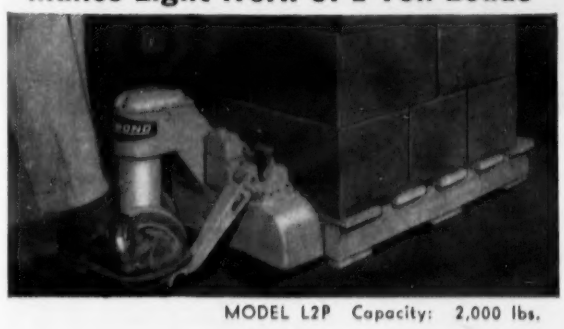
TELLS HOW TO CHOOSE THE RIGHT GLOVES FOR 207 COMMON INDUSTRIAL CHEMICALS
Includes application charts and detailed data on selecting sizes, weights, and finishes.



The Wilson Rubber Company
INDUSTRIAL DIVISION • CANTON 6, OHIO
A Division of Becton, Dickinson and Company WR-457-11
For more details circle NED-547 E7 on enclosed inquiry slip

Makes Light Work of 1-Ton Loads



MODEL L2P Capacity: 2,000 lbs.

RAYMOND
Lightweight
HYDRAULIC PALLET TRUCK

ONE MAN can handle 2,000 lb. loads with ease with the Raymond Lightweight Pallet Truck. Because this truck lets hydraulic power do your heavy lifting . . . frees 2 or 3 men for other work.

Lightweight makes it easy to maneuver and pull, lessens operator fatigue. Ruggedly constructed to withstand years of use and abuse. Offers effortless pallet entry, foot pedal lifting and lowering. Little wonder it's the world's most popular pallet truck!

Handles Skids Too

Optional Skid Adapter lets Raymond Pallet Truck handle 2,000 lb. skid loads. Hinged superstructure raises out of the way when handling pallets, lowers into position for handling skid loads.

BULLETIN ON REQUEST
The RAYMOND CORPORATION
4128 Madison St., Greene, N.Y.

☐ Send Lightweight Pallet Truck bulletin.
☐ Send Pallet Truck Skid Adapter information.

NAME TITLE
COMPANY
STREET
CITY STATE

For more details circle NED-548 E7 on enclosed inquiry slip

MEAD IMPACT MILLS SINCE 1877

PULVERIZE GRINDABLE AND UNGRINDABLE MATERIALS

FAST CONTINUOUS PRODUCTION
QUIET
LOW MAINTENANCE
5 VERSATILE MODELS
WIDE RANGE of MATERIAL & PARTICLE SIZES
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What other tool companies consider "SPECIALS"
(IN DECIMAL SIZES)

WE STOCK AS STANDARD

Thousands of chucking and Stub Reamers by the .001 in Stock ready for the precise job. Why buy or make "SPECIALS" when you can BUY from STOCK — over night.

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A-97

Precise PRESSURE Measurement

Sensitivity 0.2%

W&T PRECISION LOW PRESSURE GAUGE—FA-141

Ranges: All ranges from 0-10 inches water to 0-30 inches Hg.

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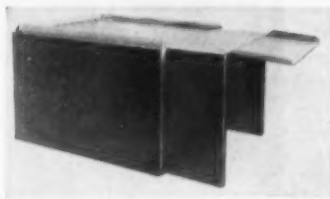
ELECTRICAL MECHANISMS AND PRECISION INSTRUMENTS
Belleville 9, New Jersey . . . Represented in Principal Cities
In Canada, Wallace & Tiernan Products, Ltd.—Toronto

For more details circle NED-551 E7 on enclosed inquiry slip

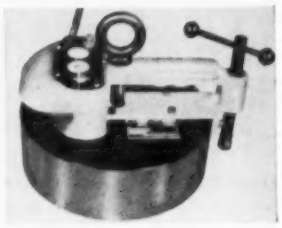
SELF-LEVELING PLATFORM for ground level or dock use



Installed at ground level or in loading docks, the Load-O-Matic self-contained automatic self-leveling platform can rise from ground level to any truck height up to 60 in. in 20 seconds. Hinged plate rises to truck bed, stopping when level. Barriers which rise automatically around perimeter of platform as it leaves floor level retract flush with floor when lowered. Sealed hydraulic mechanism requires no maintenance. Sizes to meet requirements of large or small installations are offered. Made by **Field Engineering Products Co.**, Jamestown, N. Y.

For more details circle NED-552 E7 on enclosed inquiry slip

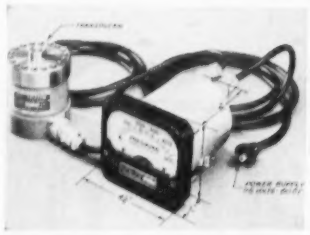
MAGNETIC PLATE CLAMP holds heavy metal plates for welding



Model PH Mag-Tool magnetic plate clamp is designed for such heavy duty applications as holding heavy metal plates in alignment for welding. Auxiliary equipment is usually not required since clamp exerts up to 8500 lb of magnetic power. It weighs only 85 lb and draws 65 w. Made by **Magnetic Tool Corp.**, Dept. E, 1955 Lafayette St., Santa Clara, Calif.

For more details circle NED-553 E7 on enclosed inquiry slip

FLUID PRESSURE INDICATOR shows telemetered information



A precision direct current meter movement and a dc power supply comprise the model 182 Teledyne indicator for showing telemetered information from strain gage type transducers. Applications include measurement of fluid and gas pressures, thrust, torque and similar phenomena where indicator is remote from transducer. Adjustments of mechanical zero, electrical zero and calibration are accessible from the front of the panel-mounted indicator. Dials calibrated to any of the standard fluid ranges from 0-100 to 0-10,000 psi can be furnished. Meter accuracy is within 1 per cent of full scale. Unit is compensated for ambients from 0 to 120° F. Electrical input is 105-125 v, 60 cycles, 3 w. Made by **Taber Instrument Corp.**, Section 16, 111 Goundry St., North Tonawanda, N. Y.

For more details circle NED-554 E7 on enclosed inquiry slip

IT'S SMOOTH
IT'S CLEAN
IT'S STRONG

New Rex Plate Top Roller Chain with "snap on" top plates of NYLON

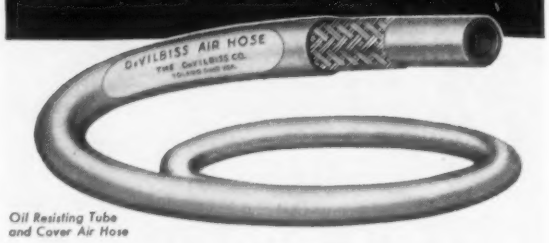
Send today for the new bulletin which tells about Rex® N860 Plate Top Roller Chain, a roller chain with top plates of nylon especially developed to provide smooth, clean, strong transport of bottles, jars, cans and packages. Can operate without lubrication! Mail the coupon below.

CHAIN BELT COMPANY
Milwaukee 1, Wisconsin

CHAIN Belt Company
4686 W. Greenfield Ave.
Milwaukee 1, Wis.
Please send me Nylon Plate Top Bulletin 57-12.
Name.....
Company.....
Address.....
City.....State.....

For more details circle NED-555 E7 on enclosed inquiry slip

NEW OIL-RESISTANT AIR HOSE!



Oil Resisting Tube and Cover Air Hose

specially treated against oil damage

● Here's a new DeVilbiss Air Hose built to resist wear under conditions of hardest use. It has braid reinforcements for greatest strength and durability. Will not kink, crack, or fray!

Specially compounded, it provides dependable, long-lasting service for air tools that require lubrication through the air stream. It was specifically designed for use under oily working conditions — smooth cover and smooth inside tube are completely unaffected by oil! Liner will not disintegrate and plug tools. Outside is easy to wipe clean.

Available as bulk hose in reel lots, or in cut lengths. Write today for full data!

DEVILBISS

THE DEVILBISS COMPANY
Toledo, Ohio

Santa Clara, Calif. • Barrie, Ontario • London, England

For more details circle NED-556 E7 on enclosed inquiry slip

PERECO Electric FURNACES and KILNS

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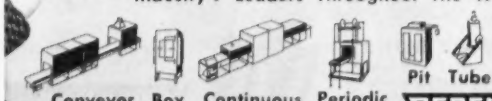


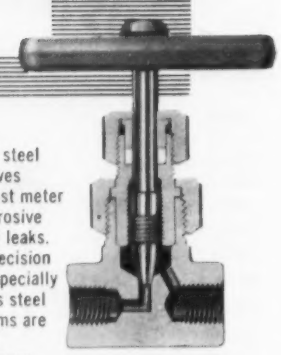
Conveyor Box Continuous Periodic Pit Tube

PERENY EQUIPMENT CO.

Dept. G, 893 Chambers Rd.
Columbus 12, Ohio

For more details circle NED-557 E7 on enclosed inquiry slip

AMERICAN® needle valves



Teflon-packed, forged steel American® Needle Valves stand up in the toughest meter manifold jobs and other corrosive field services without gland leaks. Stainless or carbon steel precision machined valve bodies are specially suited for welding. Stainless steel centerless-ground valve stems are designed so that the valves can be repacked under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. For pressure to 10,000 psi, upon request, valves are hydrostatically tested and individually inspected. Valves are furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

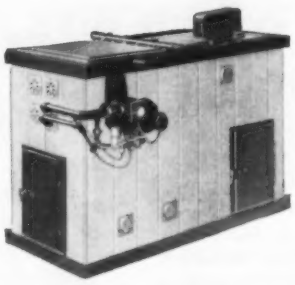
Angle or straight patterns — screwed or union bonnets.

AMERICAN METER COMPANY

Executive Offices: Philadelphia 16, Penna.
Sales Offices In Principal Cities

For more details circle NED-558 E7 on enclosed inquiry slip

INDUSTRIAL INCINERATOR FEATURES SMOKELESS AND ODORLESS OPERATION



Bowser, a completely automatic incinerator, disposes of all burnable industrial waste, minimizing smoke and odor. Destruction is thorough, leaving little ash residue. The virtually smokeless and odorless operation is attained by a venturi action. Controlled air is drawn in to provide oxygen for accelerated combustion in a secondary chamber. This produces very high temperatures, completely burning combustible gases and eliminating odors.

Bowser incinerator eliminates costly trash problems, cuts disposal costs, saves space and reduces fire hazards. Utilizes natural, manufactured, mixed or LP-gas.

Three models are available with capacities up to 200 lbs. per hour.

Write for free Catalog

BOWSER, INC., INCINERATION DIVISION

Factory—CAIRO, ILLINOIS

Sales Offices—1335 W. RANDOLPH ST., CHICAGO, ILL.

For more details circle NED-559 E7 on enclosed inquiry slip

AMERICAN

Light weight...of die-formed pressed-steel—as light or lighter than steel-reinforced wood trucks... reduced truck weight means more pay-load!

Maneuverable...wheels located inside or outside the frame for shortest practical turning radius—they're ALL built to move goods easily in narrow aisles, small spaces, tight corners.

Balanced...finger-tip balance is built into every American truck. American Steelite® Wheels with rubber tread, oversize ball bearings to move heavy loads with greatest ease.

Sturdy...practically indestructible, many of our customers tell us, year after year. Cold-rolled steel axles and pressed-steel side rails and cross bars make American First...in sturdiness.

Efficient...is the word for American Hand Trucks. No matter what type of goods you have to move, it's likely American has a bright-red model built just for the job. Over 40 sizes and models stocked by 400 distributors from coast to coast—and every truck guaranteed for 5 years.

May we send you our catalog?

Drum & Barrel Cradles by AMERICAN

Heavy drums can be safely handled by one man with American's patented loading bar: slides out to use, slides in to store. Cradles come with or without wheels.

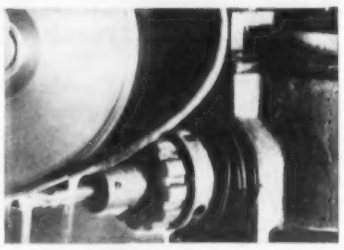
The American Pulley Company

MATERIALS-HANDLING DIVISION

4294 Wissahickon Ave. • Phila. 29, Pa.

For more details circle NED-560 E7 on enclosed inquiry slip

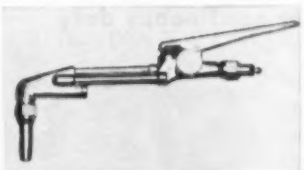
SOLID CARBIDE END MILLS ground by electrolytic process



Heat check damage incurred in manufacture of solid carbide end mills is eliminated by the electrolytic grinding process which eliminates most of the grinding heat. Electrochemical action in conjunction with a special diamond wheel forms Golden Circle carbide end mills, available in diameters from 1/16 to ½-in. and special sizes. Made by **Elgin National Watch Co.**, Abrasives Div., Dept. N, Elgin, Ill.

For more details circle NED-561 E7 on enclosed inquiry slip

GAS CUTTING ATTACHMENT fits light-duty oxyacetylene torch

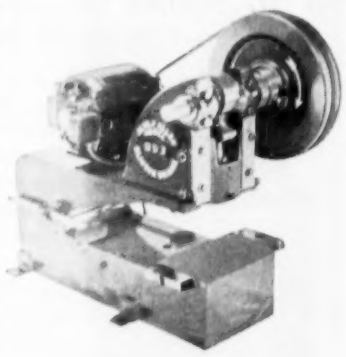


Suited for cutting up to 1-in. thick steel, style 1490 light-duty oxyacetylene cutting attachment fits on the Airco 400 lightweight welding torch. Gas-tight seal is assured by tapered sealing rings, and hand tightening makes a firm joint. Diaphragm cutting-oxygen valve prevents gas leakage. Mixer is removable for easy cleaning. Distributed by **Air Reduction Sales Co.**, Dept. NED, 150 E. 42nd St., New York 17, N. Y.

For more details circle NED-562 E7 on enclosed inquiry slip

3-TON PUNCH PRESS features a 12-in. deep throat

Up to 300 continuous punching, forming, blanking, cutting, drawing, shearing and riveting operations per minute can be performed with the model BD-3 power bench type press. Rated at 3 tons, it has a 12-in. deep throat for punching to the center of a 24-in. circle. Quick-action single-pin clutch has nonrepeat or repeat action. Standard stroke is ¾-in. with ¼ to 1½-in. strokes optional. Its V-belt drive requires a 1/3-hp motor. Price with foot control, V-belt, motor pulley and bolster plate, is $274. Made by **Alva Allen Industries**, Dept. NED, 1001-1015 N. Third St., Clinton, Mo.



For more details circle NED-563 E7 on enclosed inquiry slip

For more details circle NED-564 E7 on enclosed inquiry slip

POR-ROK (POUR ROCK)

Fast Setting Cement

PERMANENTLY ANCHORS BOLTS IN CONCRETE WITHIN 30 MINUTES!

Securely fastening machinery, hand rails, seats, fixtures or any type of equipment to concrete by means of anchor bolts can now be done quickly, easily and safely with Por-Rok Quick Setting Cement.

Por-Rok successfully replaces lead and sulphur, and costs considerably less. Applied cold, there is no heating hazard. Simply mix Por-Rok powder with water and pour around bolt. Within 30 minutes the cement sets hard and the bolt is anchored permanently.

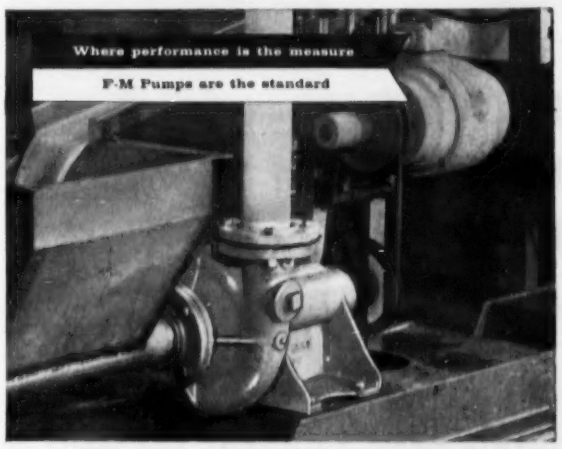
Por-Rok also makes quick, lasting repairs to holes and breaks in concrete floors with little or no interruption to normal traffic. It is self-bonding, self-leveling, oil-resistant, does not shrink. Compression strength of 4500 lbs. p.s.i. in one hour GUARANTEED.

For complete information—without obligation—write

THE HALLEMITE MFG. CO.

2452 WEST 25th ST. • CLEVELAND 13, OHIO SINCE 1937

For more details circle NED-565 E7 on enclosed inquiry slip



They never give a shrimp a break

Fragile shrimp are moving through this Fairbanks-Morse bladeless impeller pump—moving smoothly, gently and economically for a leading food packer.

Because of its exclusive bladeless design, this F-M pump literally flows solids in a liquid cushion, without clogging and without damaging the product.

Find out now how an F-M non-clog bladeless impeller pump can move your solids safer and cheaper. Call your Fairbanks-Morse Field Engineer today, or write Fairbanks, Morse & Co., Dept. NED-5, 600 So. Michigan Avenue, Chicago 5, Illinois.

FAIRBANKS-MORSE

a name worth remembering when you want the BEST

For more details circle NED-566 E7 on enclosed inquiry slip

Wheeler

"PACKAGE PLAN" LIGHTING

the efficient time saving way to solve all your lighting requirements at one time!

Wheeler

REFLECTOR COMPANY

Div. of FRANKLIN RESEARCH CORP.

275 Congress Street

Boston 10, Mass.

Distributed Exclusively through Electrical Wholesalers

For more details circle NED-567 E7 on enclosed inquiry slip

The Odds are 108 to 1!

THAT YOU'LL FIND THE METAL CUTTER YOU NEED in the

HKP PORTER CUTTER-Catalog

Yes — there are 108 different metal cutters in the PORTER CUTTER catalog. From a few pioneering cutters, the line has grown each year, as these powerful tools cut labor costs up to 97% — and as new, tough cutting jobs were tossed at PORTER engineers by production men with metal-cutting problems.

Each PORTER CUTTER is especially designed for a particular job — or jobs. Probably work that now has you baffled — production far too slow, costs far too high — is a job that PORTER has already solved. A careful look at the PORTER CUTTER catalog can be the answer to your problem.

WRITE FOR IT! IT'S FREE!

— the PORTER catalog can save you money by showing you the cutter that can do the job you want, the way you want it, at the low cost you are aiming for.

Ask your Industrial Distributor or write

H. K. PORTER, Inc. Somerville 43, Mass.

For more details circle NED-568 E7 on enclosed inquiry slip

LOOKING FOR NEW MARKETS ?

PM-87

this free folder is for you!

Because of its resistance to corrosives, and to abrasion, *expanded stainless steel* is ideally adapted to applications in chemical handling and processing equipment, in the textile and food industries, in hospitals and laboratories, and in many other fields where the inherent qualities of stainless steel are essential.

Send for free copy of catalog 506-EM, which describes Penmetal expanded stainless steel. Includes sizes, weights, dimensions and typical applications.

PENN METAL COMPANY, INC.

General Sales Office: 40 Central St., Boston 8, Mass.

Plant: Parkersburg, W. Va.

For more details circle NED-569 E7 on enclosed inquiry slip

INDUSTRIAL RETAINING RINGS

SERIES 3000

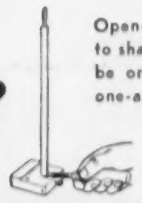
Internal rings (NAS 50) applied axially into housings.

SERIES 3100

External rings (NAS 51) applied axially to shafts.

SERIES 1000

Open-type rings applied radially to shafts. Series 1000 rings may be ordered stacked for easy one-at-a-time dispensing.



Write for free ring samples and illustrated catalog.

INDUSTRIAL RETAINING RING CO.

57 Cordier Street, Irvington 11, New Jersey

Originators of modern retaining ring dispensing

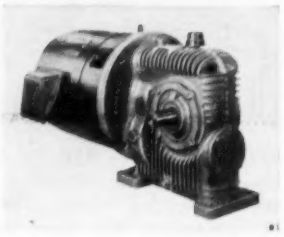
For more details circle NED-570 E7 on enclosed inquiry slip

COOLING FAN
24 to 42-in. models

Blade and hub of the type PM product and comfort axial airfoil cooling fan are aerodynamically designed for high efficiency and low noise level. It produces an even distribution of air velocity from hub to tip. Sizes from 24 to 42 in. are available with two, four, six or eight steel (standard) or aluminum blades, depending on pressure and volume characteristics desired. Mounting is on a pedestal of steel tubing. A crane hook facilitates handling. Made by **Chicago Blower Corp.**, Dept. NED, 9863 Pacific Ave., Franklin Park, Ill.

For more details circle NED-571 E7 on enclosed inquiry slip

RIGHT-ANGLE GEARMOTOR
1-10 hp sizes for continuous duty



Heavy load-carrying and shock-absorbing qualities are built into line of space-saving right-angle gearmotors. They are made in 1 to 10-hp sizes for continuous duty applications, or 1 to 30 hp for intermittent duty. One-piece reducer housing, finned for maximum strength and heat dissipation, contains a pair of helical gears for primary reduction and a double-enveloping worm gear set for secondary reduction. Horizontal or vertical mounting gearmotors can have an ac or dc motor of any speed or duty rating, with any standard enclosure type. Made by **Reliance Electric & Engineering Co.**, Dept. SP, 24701 Euclid Ave., Cleveland 17, O.

For more details circle NED-572 E7 on enclosed inquiry slip

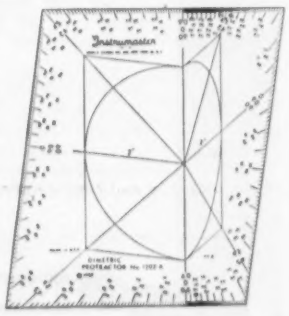
DIP SOLDERING MACHINE
solders 120 circuit boards per hour

Latest version of the EPC soldering machine facilitates semiautomatic production of electrical and electronic assemblies and circuit boards utilizing printed and etched circuits. Capacity is 120 units per hour. Angle and depth of immersion of work in molten solder are adjustable, and dwell time can be set from 0 to 57 seconds in 0.5-second increments. Work engages solder in a progressive rolling action. Automatic dross skimmer and vibrator unit removes excess solder from work. Cabinet height is 39 in. above floor. Machine is mounted on casters and uses 220-240 v 60-cycle single-phase current. Typical load is 2400 w. Made by **Electronic Products Corp.**, 320 State St., Santa Barbara, Calif.

For more details circle NED-573 E7 on enclosed inquiry slip

DIMETRIC PROTRACTOR
for three-dimensional drafting

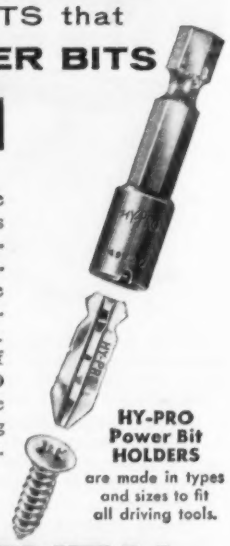
Conforming to No. 102 and 202-A/B ellipse stencils, No. 1202-A dimetric protractor contains complete graduations of 180 degrees each for the two different scale sections of the dimetric system. Numerals cover 90 degrees from a 0-mark in clockwise and counterclockwise directions. Made of clear vinyl plastic, instrument can be used on either side as reverse-numerals are also provided. Edges are cut so that placing any edge against T-square or drafting machine automatically orients the protractor in a correct position. A pair of 2-in. half-ellipses facilitates determining the dimetric length of lines extending in angular directions not parallel with the main axes. Scale ratio is 1-to-1-to-0.5. Made by **John R. Cassell Co.**, 112 W. 42nd St., New York 36, N. Y.



For more details circle NED-574 E7 on enclosed inquiry slip

Count on *Continental* for PHILLIPS BITS that

OUTLAST OTHER BITS 2 to 1



Repeated tests under assembly line conditions prove that Continental's HY-PRO Phillips bits have an average life *double* that of the best comparable bit. They last longer because they're *forged*, not milled, to concentrate extra strength at the point.

You get uniform, precision fit of bit and recess because HY-PRO Phillips Bits are made from the same Phillips master tools used in making HOLTITE Phillips Screw recesses.

Make your own tests. For details, write Dept. ND.

HY-PRO Power Bit HOLDERS are made in types and sizes to fit all driving tools.

CONTINENTAL

SCREW COMPANY, NEW BEDFORD, MASS.

HOLTITE FASTENERS

HOLTITE PHILLIPS AND SLOTTED HEAD

WOOD • MACHINE • TAPPING • THREAD CUTTING • SEMS • NYLOK

HY-PRO PHILLIPS INSERT BITS AND HOLDERS

For more details circle NED-575 E7 on enclosed inquiry slip

NEW BATHEY HOPPER FRONT FLO-BINS

For SMALL PARTS ASSEMBLY

3 SIZES . . . WITH ADJUSTABLE AND REMOVABLE FLOW CONTROL BAFFLE.

MBC NATIONALLY ADVERTISED

NEW CURVED FRAME FOR BENCH OR CONVEYOR ASSEMBLY

B-15 DEALERS IN PRINCIPAL CITIES

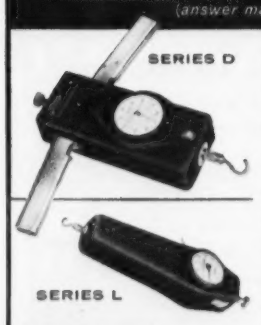
BATHEY MFG. CO.

100 S. MILL STREET PLYMOUTH, MICH.

For more details circle NED-576 E7 on enclosed inquiry slip

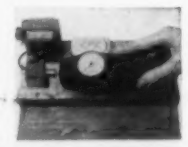
PRECISION FORCE GAGES

(answer many test standard requirements)



Hunter Mechanical Force Gages are precision-built, direct reading instruments for measuring forces in tension and compression. Are accurate to within 1% of full-scale. "Hold-at-maximum" indicator available as optional feature. Types and sizes available for measuring forces ranging from 0-500 grams to 0-200 pounds.

Standard part of military aircraft kit, Force Gage is a tool for adjustment of controls.



Force Gage is fixture held to test precise electrical assemblies.

Plastics manufacturers use Force Gage to test bond strength of foil coatings on laminates

Thousands of force gages now used for inspection, testing, quality control in labs, on production lines, in the field.

WRITE FOR BULLETIN 750C

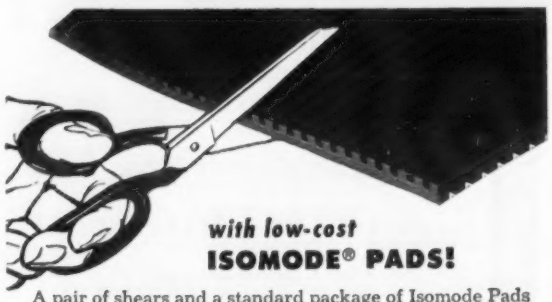
HUNTER Springs for Spring

HUNTER SPRING COMPANY

14 Spring Avenue, Lansdale, Pennsylvania

For more details circle NED-577 E7 on enclosed inquiry slip

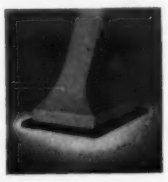
If you can use shears you can CONTROL VIBRATION



with low-cost **ISOMODE® PADS!**

A pair of shears and a standard package of Isomode Pads ... that's all you need to isolate troublesome shock and vibration on some 80 tons of machinery.

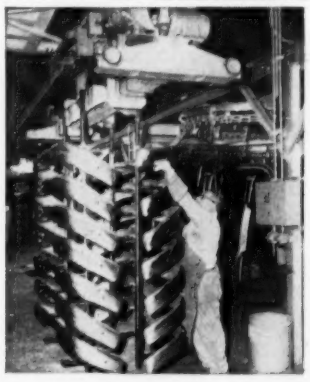
Made of durable, resilient DuPont neoprene, these ribbed pads support up to 50 lbs. per sq. in.—do an effective job of muffling plant noise and reducing maintenance costs on machines and buildings.



Installation is utter simplicity—simply cut to fit machine feet and install. No waste, no fuss, minimum down time. Write for prices and Application Bulletin No. 415.

MB MANUFACTURING COMPANY
A division of Textron American, Inc.
1066 State Street, New Haven 11, Conn.

For more details circle NED-578 E7 on enclosed inquiry slip



AMERICAN MONORAIL teams with Udylite plates auto bumpers at Rheem Automotive plant

Combined engineering skills resulted in substantially reduced handling costs for the plating of auto bumpers at the new Rheem Automotive plant at Fullerton, California. 32 American MonoRail automatic dispatch units move special Udylite bumper carriers on three monorail systems with 14 drop sections to maintain continuous automatic plating.

Let American MonoRail engineers solve your handling problems.

Write for Bulletin C-1

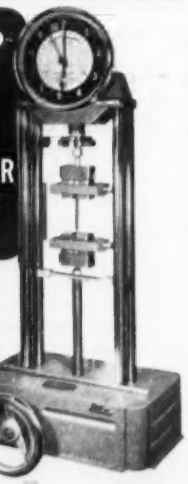
THE AMERICAN MONORAIL CO.
13116 ATHENS AVENUE • CLEVELAND 7, OHIO
(IN CANADA—CANADIAN MONORAIL CO., LTD., GALT, ONT.)

For more details circle NED-579 E7 on enclosed inquiry slip

Testing Problems?

• TENSILE • TRANSVERSE
• COMPRESSION • SHEAR

A DILLON UNIVERSAL TESTER *will solve them all!*



You can make *any* workbench a testing area with a DILLON Model L Bench Tester. This low cost instrument precision-checks metal, plastics, wire, rubber, springs, etc. Operates in tensile, compression, transverse or shear! Handles round, flat or special shapes. Hand wheel or motorized. Equipped with max. indicator. 7 interchangeable gauges. For materials up to 125,000 lbs. PSI tensile. Wide range of gripping fixtures. Also available on stand.

MODEL L

MODEL M

FOR EXTREMELY DELICATE MATERIALS
Model M for low strength specimens between 0 & 300 lbs. Meets ASTM & Fed. specs. Pendulum principle. Has 5 scales.

Write TODAY for brochures and LOW price schedule

W.C. Dillon & CO., INC.
14578NE Keswick St., Van Nuys 1, Calif. "suburb of Los Angeles"

For more details circle NED-580 E7 on enclosed inquiry slip

WORK-CHIP SEPARATOR production cleans machined parts

Workpieces and chips from automatic screw machines or other production machines are separated efficiently by this chip separator. Vibrating feed, sloping screen, air blast and gravity discharge chute are combined to separate work and chips. Work is delivered to tote boxes or other containers, or it can be conveyed to next machine for further processing. Chips are discharged into container, or they can be carried away by belt conveyor. Machine is powered by 5-hp fan motor and ½-hp vibrator drive. Made by **Ransohoff, Inc.**, N. Fifth St. at Ford Blvd., Hamilton 27, O.

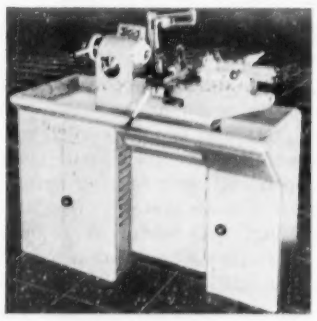
For more details circle NED-581 E7 on enclosed inquiry slip

GROUNDING CORD REEL contains 20 or 45 ft of cable

Designed for static grounding, the static discharge cord reel is easily mounted on carriers involved in bulk transfer of fuel. Cable is pulled out quickly, locks automatically at the desired length, and feeds back into its case rapidly. Unit has a rubber-jacketed copper alligator clip for firm grounding and 20 or 45 ft of stranded steel cable with crackproof plastic covering. Made by **Vacuum Cleaner Corp. of America**, Cordomatic Div., 1724 Indiana Ave., Philadelphia 44, Pa.

For more details circle NED-582 E7 on enclosed inquiry slip

HAND TURRET LATHE speed ranges from 140 to 3500 rpm

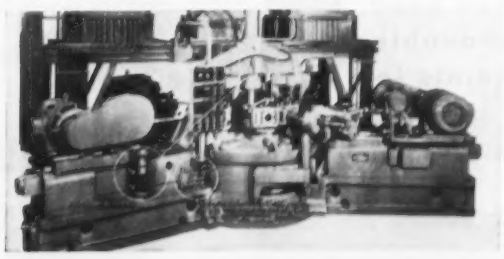


Infinitely adjustable speed from 140 to 3500 rpm is obtained on this No. 94 hand turret lathe by means of pushbutton operated servomechanism. Electric clutches give immediate high-to-low spindle ratio of 5:1. Unlimited reversal of spindle is obtained by the electric clutch without reversing the constant speed motor. Added features include flame-hardened and ground Meehanite self-centering bed and provision for easy chip removal. Double action cross-slide has a variable speed system to give fast approach as well as close control of size. Made by **Wade Tool Co.**, 39 River St., Waltham, Mass.

For more details circle NED-583 E7 on enclosed inquiry slip

CENTRALIZED LUBRICATION for hydraulic machines and presses

Automatic centralized lubrication is obtained on hydraulic machine tools and presses by addition of a Trabon Hydra-Lube pump and a simple feeder system and reservoir. Pump is connected to existing hydraulic supply lines to lubricate all points of friction as the machine operates under full load. Designed to operate where the machine cylinder is hydraulically powered in one or two directions, the pumps are offered in three sizes. Oil or grease discharge is adjustable to the needs of the machine. Pump operates with lubricant reservoir assemblies of 1½, 3, 5, 8 and 12-lb or pint capacities. Made by **Trabon Engineering Corp.**, Dept. A, 28815 Aurora Rd., Solon, O.



For more details circle NED-584 E7 on enclosed inquiry slip

NEW LOW-COST SURFACE PROJECTOR

The New MAGNAVISA by AO Spencer answers an urgent need for a practical low-cost contour and surface projector. A self-contained, portable, projection magnifier ...ideally suited for easy examination of relatively flat objects and small parts, imprinted circuits, fine print of scale drawings etc. Extremely easy-to-use: Simply lower counter balanced optical head to object plane and the magnified image is projected onto the evenly illuminated 4½" x 12" screen. Choice of two models: One magnifies three times, field coverage 1⅜" x 3⅞"; the other five times, coverage ⅞" x 2⅛".

Price $110.00

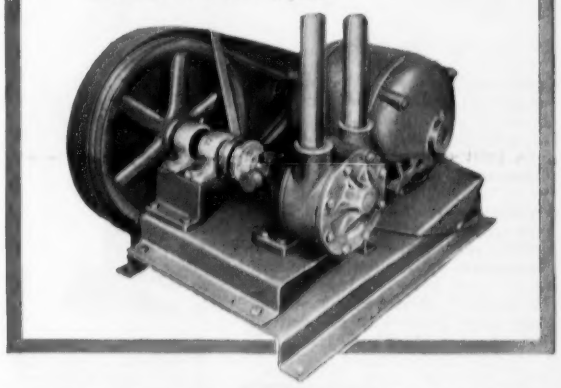
See your nearest AO Dealer or write Dept. Q225.

American Optical Company Instrument Division Buffalo 15, New York

For more details circle NED-585 E7 on enclosed inquiry slip

new TUTHILL SU PUMP UNITS

• *For heavy fuel oil ... in commercial oil burner and other applications*
• *For other viscous liquids*



These economically priced new Tuthill "V" Belt Driven Pump Units have been developed specifically for handling heavy fuel oils in heating and other applications ... and for moving all types of highly viscous non-corrosive liquids.

Compact and lightweight, SU Units can be furnished with overall dimensions of only 25¼" x 14⅞". The multiple "V" Belt Drive and special pump construction insure quiet operation.

Dependable, trouble-free operation and minimum maintenance are provided by quality construction features, such as two ball bearing pillow blocks, a one point take-up which simplifies belt tension adjustment, flexible coupling, removable belt guard and a special fabricated steel base which accommodates a wide range of motors.

Complete SU Units are furnished for either 2 or 4 Belt Drive with a wide variety of Tuthill internal gear positive displacement pumps for pressures up to 300 p.s.i., capacities to 2030 gallons per hour. Subassemblies of pump, stub shafts, pillow blocks and sub-base may be furnished separately, as a unit, for incorporation into the products of manufacturers.

Write for 8-page Catalog 107 which gives details, dimensions and operating characteristics

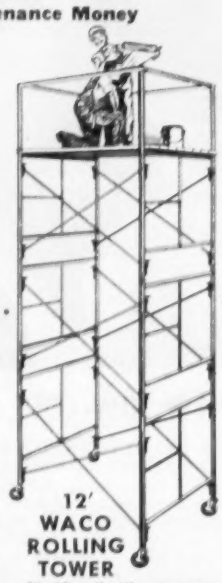
TUTHILL PUMP COMPANY
959 East 95th Street, Chicago 19, Illinois
Gentlemen:
☐ Please forward Catalog 107 on SU Pump Units
☐ Please forward information on complete Tuthill line
NAME_____ COMPANY_____
TITLE_____
STREET_____
CITY_____ STATE_____

TUTHILL PUMP COMPANY
959 East 95th Street, Chicago 19, Ill.
Canadian Affiliate: Ingersoll Machine & Tool Company, Ltd., Ingersoll, Ontario, Canada
PUMPS FOR YOUR PURPOSE

For more details circle NED-586 E7 on enclosed inquiry slip

NEW MANUAL tells how WACO Light Duty Rolling Towers Save YOU Maintenance Money

Copy Sent Upon Request



Waco Light Duty Rolling Towers are unparalleled for their versatility. Use Waco Light Duty Rolling Towers and you'll save money by reducing maintenance costs, increasing productivity (because less time is involved in moving, erecting and dismantling) and reducing workman fatigue.

This manual explains further how Waco Light Duty Rolling Towers bring you all these benefits at low cost. For instance, a 12' rolling tower, with free-running rubber casters, and "Speedlock" method of attaching cross-braces to end frames, is only $112.00. Guard rails available at extra cost.

Send for your free manual today.

12' WACO ROLLING TOWER with "Speedlock" only $112.00

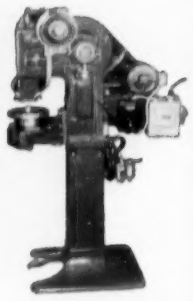
Price includes 4" rubber casters

WACO MANUFACTURING CO.
3565 Wooddale Avenue • Minneapolis 16, Minnesota

For more details circle NED-587 E7 on enclosed inquiry slip

Speed Production... Automatically with

T-J RIVITORS



Boost production . . . save labor in aircraft, automotive, farm machinery, stampings of all kinds . . . with T-J Rivitors! Automatically feed and set solid rivets. Electrically-powered Rivitor sets 1/16" to 1/4" diam. solid rivets up to 7/8" long. Air-powered Rivitor sets aluminum alloy rivets up to 1/4" diam. or steel rivets up to 1/8" diam. and up to 3/4" long. Throat depths 8" to 36". Write for bulletins 646 and 847. The Tomkins-Johnson Co., Jackson, Mich.

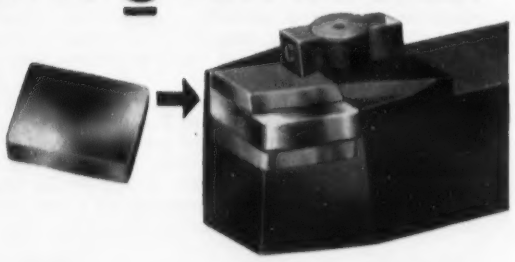
T-J Rivitor used for automotive clutch plate assembly. Does four-fold job—assembling, setting, inspecting, ejecting.

37 YEARS EXPERIENCE (T-J)

TOMKINS-JOHNSON
RIVITORS...AIR AND HYDRAULIC CYLINDERS...CUTTERS...CLINCHORS

For more details circle NED-588 E7 on enclosed inquiry slip

SINGLE INSERT GIVES YOU UP TO 8 CUTTING EDGES



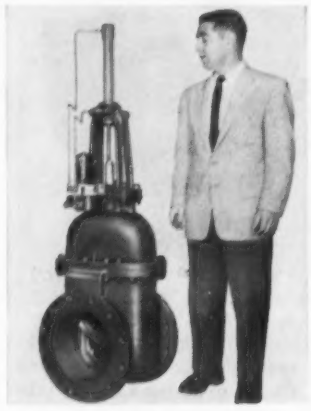
in this WENDT-SONIS TOOL HOLDER

You save on tool inventory and eliminate costly diamond wheel regrinding with Wendt-Sonis tool holders and throw-away inserts. Because inserts can be indexed to ±.001", they can be replaced without removing tool holder from machine—saving on down-time, too. For free technical service, see your area Wendt-Sonis representative. Write for Catalog 57-A. Address Dept. NED-557.

WENDT-SONIS COMPANY
HANNIBAL, MISSOURI • ROGERS, ARKANSAS

For more details circle NED-589 E7 on enclosed inquiry slip

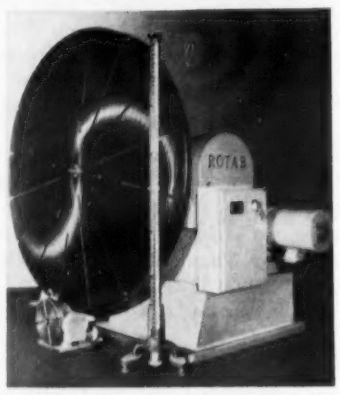
HYDRAULIC VALVE ACTUATOR
miniature unit for large valves



Two separate pressures, one for closing and one for opening, are supplied by Oil-Dyne miniature hydraulic valve actuators. Unit, used to operate a 12-in. gate valve, consists of pump, pressure switch, cylinder, reservoir and motor, yet dwarfs the valve (see photo). Actuator can supply any combination of opening and closing pressures from 50 to 5000 psi. Self-contained units are available for this and other applications in a range of types and motor sizes, and with or without explosionproof housings. Made by **Oil-Dyne, Inc.**, 2115X W. Marquette Rd., Chicago 36, Ill.

For more details circle NED-590 E7 on enclosed inquiry slip

TILTABLE ROTARY TABLES
optical measuring system permits accuracies within 5 seconds of arc



Micrometer microscope with glass vernier reticle for direct reading of radial position affords accuracies to within 5 seconds of arc on Rotab tiltable rotary tables. Tables can be used in layout, inspection and quality control operations, as well as for tool room machining at many different angles. Table is made in diameters up to 84 in. Photo shows this size compared to small, hand-operated unit developed originally.

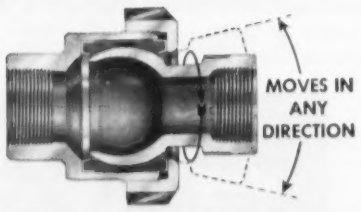
After 0-360-degree marked ring located under table is rotated to desired degree and locked, final radial adjustment is made with knurled hand wheel. One revolution of this wheel equals about 1/5 of 1 degree, depending upon reducer ratio. A second vernier scale and optical system provides for 90-degree angular setting, also within 5 seconds of true position.

Two-directional motor powered rotating and tilting drive unit, plus portable pendant control box assure fast, accurate positioning in any one of three planes. Ample number of T-slots are provided for clamping wide variety of complex parts or fixtures. Made by **Machine Products Corp.**, 6763 E. McNichols Rd., Detroit 12, Mich.

For more details circle NED-591 E7 on enclosed inquiry slip

BARCO *Flexible* **BALL JOINTS**

—when you need movable joints in piping handling



STEAM, OIL, CHEMICALS

Send for New Bulletin No. 215B

- Provides for movement in piping—up to 40° side flexibility, plus 360° rotating movement.
- Stainless steel and chemically inert gaskets for strong chemicals. No metal-to-metal contact. Choice of body materials.
- One Barco Ball Joint does the work of two or more ordinary swivel joints because "it moves in any direction!"
- Many models available. For pressures to 4,500 psi; temperatures to 1000°F. 15 different sizes. ¼" to 12". *Ask for recommendations.* BARCO MFG. CO., 530-F Hough St., Barrington, Illinois.

THE ONLY TRULY COMPLETE LINE OF FLEXIBLE BALL, SWIVEL, SWING AND REVOLVING JOINTS

For more details circle NED-592 E7 on enclosed inquiry slip

Tempilstiks°

FOR ALL HEAT-DEPENDENT OPERATIONS . . .

looks like a crayon
marks like a crayon
tells temperatures like a precision instrument

Sixty-three different compositions enable you to determine and control working temperatures from 113° to 2000°F. TEMPILSTIK° marks on workpiece "say when" by melting at stated temperatures — plus or minus 1%.

Also available in liquid and pellet form . . . Write **Advertising Division** for sample TEMPIL° pellets. . . State temperatures of interest — please!

Tempil°
CORPORATION
132 WEST 22nd STREET, NEW YORK 11, N. Y.

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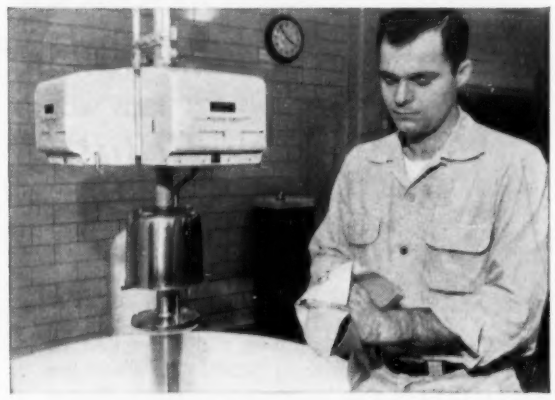
$3,225 saved without sacrifice!



A LARGE corporation* tested Mosinee Turn-Towls against the towel service they had been using. Result — cut in the cost of towel service from $9,000 to $5,775 annually.

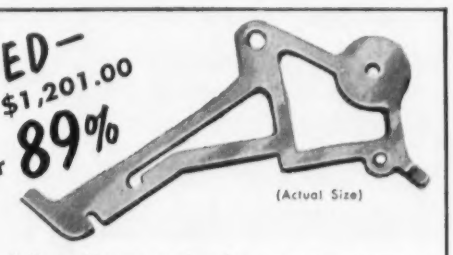
Try Turn-Towl service yourself. See how it improves your washroom facilities . . . builds customer and employee good will . . . saves you money. Write for complete details.

*Name on request

BAY WEST PAPER CO.
1130 West Mason St., Green Bay, Wisconsin
A Subsidiary of Mosinee Paper Mills Co.

For more details circle NED-594 E7 on enclosed inquiry slip

SAVED— $1,201.00 or 89%



After consultation with our engineering staff and with the use of dies from our tremendous library maintained specifically to save our customers time and money, this part illustrated actually saved one manufacturer 89% of usual production costs!

Price breakdown was as follows:

Tools	$152.00
Labor	.069
Material	.0053

LOW die cost
FAST delivery
- Blanking
- Forming
- Piercing
- Drawing
- Extruding
- Stenciling
- Tapping
- Countersinking
- Plating
- Machining
- Painting
- Grinding
- Welding

Yes, WLS SPEEDTOOLING for small quantity stamping needs is a saver every time! A radical production advancement, it eliminates most of the cost required for permanent dies. Finished parts are produced to tolerances as close as those from tools costing ten times as much. When jobs are completed WLS SPEEDTOOLING is stored for future use.

Use WLS for production quantities up to 100,000 when low cost, fast delivery, possible design changes for virtually nothing, are important factors!

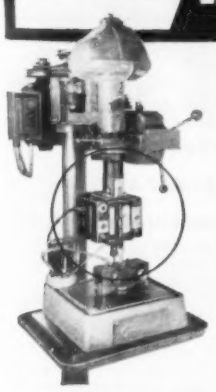
FREE
1. Write now for a free sample part with a cost summary.
2. Our free bulletin also illustrates 40 small stampings.
3. Send in your blueprints to our engineering department for a prompt quotation.

WLS STAMPING COMPANY
3287 E. 80th Street • Cleveland 4, Ohio

For more details circle NED-595 E7 on enclosed inquiry slip

TIPS for PROFITABLE TAPPING

Commander LĒAD-MATIC TAPPER



High Production Automatic Lead Screw Tapper

Put a Commander Lēad-Matic Tapper on *any* drill press and you're ready to handle any tapping job — precision or otherwise. Designed to handle a very wide range of taps, Lēad-Matic operation is simple and foolproof — even inexperienced operators produce precision threads. The Lēad-Matic's electrically controlled cycle or jog tapping actions provide versatility to handle any job. Ruggedly built for trouble-free service.

Features That Help You Tap Better

- Precision ground lead screws insure finest threads.
- Automatic tap reversal—no drill press motor reversing—faster work.
- Hand, foot or fixture switch controls.

Your nearby Commander Distributor has the Lēad-Matic see it soon.

Commander MFG. CO.
4220 W. KINZIE ST., CHICAGO 24, ILLINOIS

For more details circle NED-596 E7 on enclosed inquiry slip

Edward M. Deasy
ASSISTANT PLANT MANAGER
Thiokol Chemical Corporation
Trenton, New Jersey

"We controlled dermatitis with West's Program"

"Dermatitis no longer troubles our plant employees — now that we're using West's Program of Prevention and Control," says EDWARD M. DEASY, Assistant Plant Manager, Thiokol Chemical Corporation, Trenton, New Jersey.

"At the suggestion of the West Representative, our program includes LAN-O-KLEEN Hand Cleaner to insure personal cleanliness and ANTISEPTIC PROTECTIVE CREAMS to protect exposed skin areas. Since these products have been in use, outbreaks of skin irritations have ceased altogether."

FREE

Would similar results interest you? Send for our 24 page booklet "The Control of Dermatitis in Industry." Just check the reader inquiry service in this magazine. Or write—

WEST DISINFECTING COMPANY
Dept. 16, 42-16 West Street, Long Island City 1, N. Y.

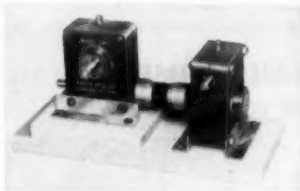
For more details circle NED-597 E7 on enclosed inquiry slip

HAND CONTROL LEVER actuates cable for remote control

Usable on power lawn mowers, snow plows and wide range of other equipment requiring linear motion to operate components, this Aldo Friction Lever-Control is easily operated by hand. Comfortable palm-grip handle gives smooth, positive adjustment. Accurate setting is maintained by vibrationproof friction element. Standard cable lengths of 4 and 6 ft are readily adapted to a wide variety of applications. Bracket facilitates installation. Made by **Superior Screw & Mfg. Co.**, 1227 W. Henderson St., Chicago 13, Ill.

For more details circle NED-598 E7 on enclosed inquiry slip

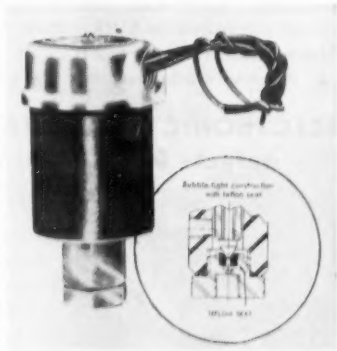
SPEED REDUCER reductions from 15:1 to 3600:1



Stocked in ratios of 15, 20, 30, 48 and 60:1, these speed reducers for fractional horsepower motors can be paired in 14 different combinations to produce additional ratios from 225:1 to 3600:1. Unit combines a molded nylon gear with a machined steel worm. Bearings are sintered bronze. Low-speed shaft can be solid or hollow. Reducer measures $2\frac{5}{8}$ x $1\frac{3}{8}$ x $3\frac{3}{8}$ in. Made by **Rampe Mfg. Co.**, 14901 Woodworth Ave., Cleveland 10, O.

For more details circle NED-599 E7 on enclosed inquiry slip

SOLENOID VALVE is gas-tight at up to 5000 psi



Stainless steel type SBTDW solenoid valve remains bubble tight even at 5000-psi working pressure. The small, direct lift, angle type valve has a Teflon seat which assures gas-tight operations even with helium, nitrogen and carbon dioxide. It is well suited for uses where high pressure is combined with relatively little flow. Pipe sizes are $\frac{1}{8}$ and $\frac{1}{4}$-in. with port sizes available in 1/16, 3/32, $\frac{1}{8}$ or 3/16-in. For liquids, viscosity governs maximum pressure. Coils are offered in any voltage. Made by **Atkomatic Valve Co.**, Dept. NED, 545 W. Abbott St., Indianapolis 25, Ind.

For more details circle NED-600 E7 on enclosed inquiry slip

Cut ANY Shape in Metal...

with a BEVERLY THROATLESS SHEAR!

- Capacities to 3/16" in mild steel
- Make clean, knurl-free cuts in any metal to capacity
- High Carbon High-Chrome Blades
- Built to last a lifetime

Here's What a Beverly Can Do!

Cuts made in 18 ga. metal with Model B-1

Beverly Shears are the most versatile metal shearing tools you can use. Unique shoulder design permits any cut . . . rack and pinion gives great power with little effort. Alloy steel body for maximum rigidity and strength. Made in 4 models.

Model B-3 with Ball Bearing Hold Down

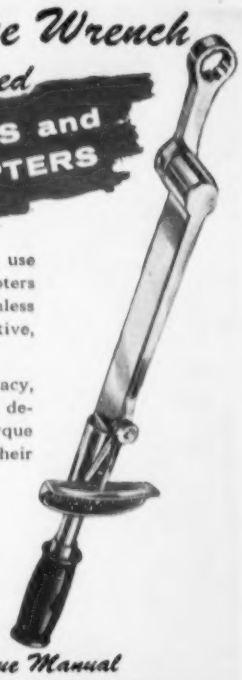
Write for illustrated circular —or see your Beverly Distributor.

Beverly SHEAR MFG. CO.
3016 W. 111th Street Chicago 43, Ill.

For more details circle NED-601 E7 on enclosed inquiry slip

Only ONE Torque Wrench can be accurately used with . . .

EXTENSIONS and ADAPTERS



It is mechanically impossible to use any Torque Wrench with adapters or extensions (with accuracy) unless that Torque Wrench has a positive, built-in, fixed load position.

This essential factor of accuracy, misunderstood or ignored in the design and manufacture of some torque tools, can completely defeat their purpose.

PATENTED PIVOTED HANDLE FIXES LOAD POSITION

Write for Torque Manual

with formulae tables and explanations for correct use of adapters and extensions.

PA STURTEVANT CO
ADDISON QUALITY ILLINOIS

For more details circle NED-602 E7 on enclosed inquiry slip

THERMOSTAT BOSSES SIZABLE ELECTRICAL LOADS WITHOUT RELAYS.

CAN YOUR INDUSTRY USE IT?

Snap-action THERMOSWITCH® units in wide use without relays, handling loads up to 20 amps, 115-220 volts A.C., or 10 amps, 125 volts, D.C.

Fenwal design of liquid-filled sensing element assures minimal heat transfer path, fast response, control to within ±2°F.

Models available to control single or multiple circuits. Low-cost tailor-mades assembled from stock parts. Thousands of variations possible.

Designers — write for details to Fenwal Incorporated, 85 Pleasant St., Ashland, Mass.

Fenwal

Controls Temperature . . . Precisely

For more details circle NED-603 E7 on enclosed inquiry slip

Cut inventory, maintenance, vibration, with Veelos, the adjustable V-belt!

Four 100' reels of Veelos (O, A, B, C widths) meet every V-belt need up to 316 sizes . . . store in *inches of space!*

CUT DOWN-TIME! Veelos is adjustable—no need to tear down outboard bearings, reset, tilt or move motors to make belt replacement or repairs. Tighten or change your Veelos belt by adding or removing links. No more waiting for a new belt, or new matched set when a belt gets loose!

CUT VIBRATION! Install Veelos in place of ordinary endless belts. Your Veelos salesman can prove, with the amazing Veelos Vibration Analyzer, that Veelos cuts vibration up to 90%!

Write for FREE Veelos Data Book to: MANHEIM MANUFACTURING & BELTING CO.
705 Stiegel St.
Manheim, Pa.

VEELOS THE BALANCED LINK V-BELT

Veelos is known as Veelink outside U.S.A.

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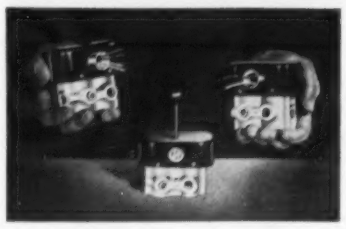
For more details circle NED-604 E7 on enclosed inquiry slip

Order from your Parker Distributor — or Tube and Hose Fittings Division, Section 426-Q, The Parker Appliance Co., 17325 Euclid Ave., Cleveland 12, Ohio

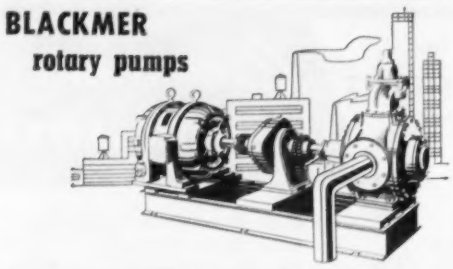
For more details circle NED-605 E7 on enclosed inquiry slip

CONTROL VALVES for double-action cylinders



These three Quick-Dump control valves for fast, positive operation of double-action cylinders are four-way, five-port models, two of which are electrically operated, while the third has a hand lever. The electric valves have electro-magnetic armatures which travel only 0.022-in. to actuate valves. Short throw eliminates hammering. One electric valve is a momentary-impulse type in which a single electric impulse opens one valve section and closes the other. Second impulse returns it to opposite position. Second electric valve is fail-safe type which holds as long as current is on. Hand lever valve holds at either forward or backward lever position. Made by **General Gas Light Co.**, Humphrey Products Div., 202-3 N. Park St., Kalamazoo, Mich.

For more details circle NED-608 E7 on enclosed inquiry slip



BLACKMER rotary pumps

• for sustained efficiency
• low maintenance

"SELF-ADJUSTING for WEAR" VANE CONSTRUCTION assures sustained efficiency. Vanes can be replaced economically to restore "new pump" efficiency.

REPLACEABLE LINERS — Liner replacement is simple and eliminates the need for replacing the entire pump.

WIDE RANGE of APPLICATIONS — Blackmer Pumps are handling hundreds of liquids and semi-solids successfully. Power units for electric, gasoline, or diesel power, with capacities from 10 to 1500 GPM, for liquid pressures up to 125 psi, temperatures to 450° F.

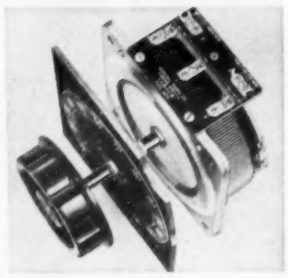
BLACKMER PUMPS "liquid materials handling" equipment

BLACKMER

Industrial, Hand and Truck Pumps, Strainers, Pressure Control Valves
BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICH.
DIVISION SALES OFFICES — NEW YORK • ATLANTA • CHICAGO
GRAND RAPIDS • DALLAS • WASHINGTON • SAN FRANCISCO
See Yellow pages for your local sales representative

For more details circle NED-612 E7 on enclosed inquiry slip

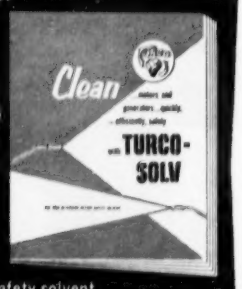
VARIABLE AUTOTRANSFORMER operates at 350 to 1200 cycles



Type M20 Variac autotransformer will operate at any supply frequency between 350 and 1200 cycles. Unit, with knob and dial, weighs less than 13 lb and is rated at 115 v input with output up to 20 amp at 0-115 or 0-135 v. It withstands the usual environmental operational shock and vibration tests required for military operation. Single, two-gang and three-gang units are available with and without ball bearings. Prices range from $48 to $167. Made by **General Radio Co.**, Massachusetts Ave. & Front St., Cambridge 39, Mass.

For more details circle NED-609 E7 on enclosed inquiry slip

spray clean
• ELECTRICAL EQUIPMENT
• PLANT EQUIPMENT



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TURCO-SOLV

the detergent-action safety solvent offers you this unchallenged combination of user benefits

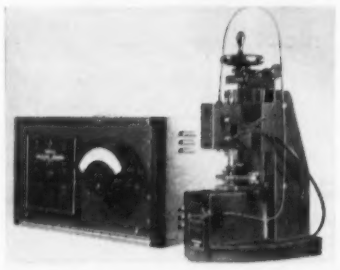
• SAFE ON ALL EQUIPMENT
• NO RESIDUE
• NON-FLAMMABLE*
• PEAK CLEANING EFFICIENCY
• OPTIMUM EVAPORATION RATE
• LOWER TOXICITY

*UNDER NORMAL USE CONDITIONS

TURCO PRODUCTS, INC.
Chemical Processing Compounds
6135 So. Central Ave., Los Angeles 1, Calif.
Factories: Newark, Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Naha (Okinawa)
Manufactured in Canada by B. W. Deane & Co., Montreal
Offices in all Principal Cities

For more details circle NED-606 E7 on enclosed inquiry slip

ELECTRONIC COMPARATOR detects 0.000001-in. variations



Originally built to measure precision ball bearings, but adjustable for parts of various sizes and shapes, the model 130 B-9 electronic comparator can detect dimension variations of 0.000001-in. It consists of electronic amplifier, indicating meter and electronic gage head mounted on a base with an adjustable column for vertical positioning of the gage head assembly. Gaging spindle gives high repetitive accuracy. Four magnifications ranging from 60,000:1 to 2000:1 can be selected. Made by **Federal Products Corp.**, 1118NR1 Eddy St., Providence 1, R. I.

For more details circle NED-610 E7 on enclosed inquiry slip

IMS PURE SILICONE RUBBER MOLD LUBE

The IDEAL SILICONE MOLD PARTING AGENT for All Quality Rubber Goods

CLEAN, CONCENTRATED!

PRICES (Delivered)
1 to 11 Cans, ea. . . $2.00
Unbroken Doz. . $18.00
Unbroken Gross . $197.40

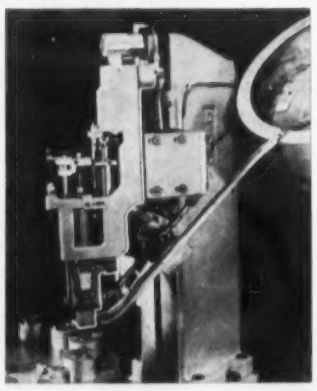
Quick, easy to apply from handy pressurized can

The economical method of applying costly silicone to quality rubber molds. Reduces rejects!

INJECTION MOLDERS SUPPLY CO.
3514 LEE ROAD • WYoming 1-1424 • CLEVELAND 20, OHIO

For more details circle NED-613 E7 on enclosed inquiry slip

AUTOMATIC PARTS FEEDER positions up to 7200 parts per hour



Wide variety of parts ranging from 1/16 to 3-in. OD are automatically guided from feeder track to fixture at rates up to 7200 per hour by the model PR-3 parts positioner. Self-contained, standardized unit can be nested on 3-in. minimum centers along an in-line transfer table or located at adjacent stations on a 5-in. radial indexing table with up to 12 stations. Unit measures 21 in. high, 3 in. wide and 5 in. deep. It is supplied with interlocking electrical controls, JIC-standard circuits, cycle speed adjustment and with strokes of 1, 2, 3 or 4 in. with speed variable up to ½-second per cycle. Necessary tooling, electrical and mounting work are simple. Made by **Dixon Automatic Tool, Inc.**, 2302 23rd Ave., Rockford, Ill.

For more details circle NED-611 E7 on enclosed inquiry slip

Wolverine TOGGLE CLAMPS

CHECK THESE FEATURES ON YOUR PRESENT TOGGLE CLAMPS

✓ Drop Forged Arms for maximum strength
✓ Heavy Body section for easier welding
✓ Case Hardened Bushings and Pins for better wear
✓ Flush Riveted Pins for more thrust bearing
✓ Black Oxide Finish for rust resistance without weld interference

W SINCE 1926

Write for Bulletin
WOLVERINE TOOL CO.
1482 E. WOODBRIDGE • DETROIT 7, MICH.

For more details circle NED-607 E7 on enclosed inquiry slip

THESE TWO BOOKS... show the complete line of USG motor and generator brushes for all types of rotating electrical equipment. Gives full facts on brush grades, split brushes, contacts, and detailed drawings and ordering information. Request Engineering Handbook B-56, "BRUSHES FOR ELECTRICAL MACHINES", and "BRUSH GRADE SUPPLEMENT TO HANDBOOK B-56".

USG BRUSHES

232

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

For more details circle NED-614 E7 on enclosed inquiry slip

NOW!

OUTSTANDING CHEMICAL PROPERTIES

OUTSTANDING PHYSICAL PROPERTIES

VISTEX* with TEFLON** Gasketing Material

Another first for American! The exceptional properties of Teflon are combined with low, cold flow characteristics to give you a gasketing material never before available.

DEFINITE ECONOMICAL ADVANTAGES

Thermal stability up to 420F. Vistex with Teflon eliminates undesirable lateral plastic flow with excellent stability to corrosive gases, liquids and virtually all chemicals. Tensile strength of 5,000 psi. Excellent cutting properties.

American Felt Company

GENERAL OFFICES: 62 GLENVILLE ROAD GLENVILLE, CONN.

*VISTEX—Reg. Trade-mark of American Felt Company
**TEFLON—Reg. Trade-mark of DU PONT for its Tetrafluoroethylene resin.

For more details circle NED-615 E7 on enclosed inquiry slip

Permanently End Condensation Drip, Rust and Corrosion with NoDrip Plastic Coating!

Here is the inexpensive, easy way to solve your condensation problem once and for all. NoDrip plastic coating acts immediately to insulate and protect tanks, pipes, walls, ceilings, air ducts and other metal equipment against condensation drip, rust and corrosion. NoDrip can be applied by anyone without special experience with brush, trowel or spray. NoDrip is also resistant to acid, alkali and brine...protects concrete, brick, plaster, tile, wood or composition surfaces.

FREE

32-PAGE NoDrip DATA HANDBOOK

Complete with photographs, charts and technical information to help solve your condensation problem. Write today!

Available at leading plumbing and mill supply houses

J. W. MORTELL COMPANY 526 Burch St., Kankakee, Ill.

For more details circle NED-616 E7 on enclosed inquiry slip

USE JUST THE AIR YOU NEED

Schrader®

pressure regulators prevent air waste

Schrader pressure regulators save your high pressure air, respond almost instantly to changing loads, give maximum air flow capacity with minimum pressure drop at any setting you make. Air equipment operates more smoothly, efficiently with Schrader regulated air. Corrosion resistant materials in all working parts of Schrader regulators assure long life. Various sizes and flow capacities to fit your needs. Send for free data.

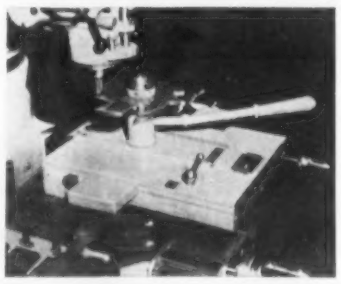
A. SCHRADER'S SON

Division of Scovill Manufacturing Company, Incorporated

459 Vanderbilt Avenue, Brooklyn 38, N. Y.

For more details circle NED-617 E7 on enclosed inquiry slip

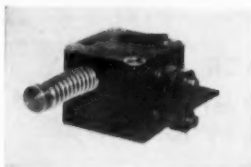
CAM GENERATOR used with milling machine, grinder



Accurate and constant rises on all plate cams can be made with the Gen-A - Cam precision cam generator, used with either a milling machine or surface grinder. It will alter hardened cams within minutes during set-up and restore soft cams that have worn from heavy cam roller pressure. Machine will also generate lobes of any size and can generate two or more rates of rise on any one lobe. Infinite selection of rates of rise from 0.000 (dwell) to 0.100-in. rise per hundredth of cam surface. Graduations in degrees or hundredths are optional. Layout attachment permits accurate scribing of cam blanks. Made by **Steuby Mfg. Co.**, Dept. N, 4595 Easton & Tram, St. Louis 13, Mo.

For more details circle NED-618 E7 on enclosed inquiry slip

HEAVY DUTY LIMIT SWITCH actuated by 35 lb of force



Single-pole single-throw No. 1230 heavy-duty limit switch has normally-closed, double-break action which is actuated by 35-lb force. Snap-action contacts open within 1/8-in. of depression travel. Switch has been tested at over 20,000 cycles while interrupting 50 amp current at 28 v dc, with no evidence of malfunction or critical wear. It meets military vibration, salt spray, sand and dust, shock and humidity tests. A modified version with roller actuation is also available. Made by **Janco Corp.**, Dept. A-3, Burbank, Calif.

For more details circle NED-619 E7 on enclosed inquiry slip

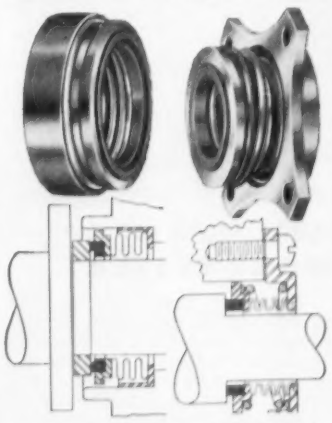
FLEXIBLE COUPLING in ratings to 4.6 hp at 3600 rpm

Installation, removal, assembly and disassembly of type L-093 zinc die cast flexible coupling are easily accomplished as it consists of two bodies with jaws and a one-piece spider type cushion. Developed for low cost original equipment application, it requires no lubrication. Dust, dirt, mud, water or similar adverse conditions do not affect performance. Various cushion materials are available. Ratings range from 0.4 hp at 100 rpm to 4.6 hp at 3600 rpm with standard Buna-N cushions. Size is 2 1/8 in. OD by 2 1/2 in. Bores range from 5/16 to 1 in. in 1/16-in. increments, or unit can be solid. Made by **Lovejoy Flexible Coupling Co.**, Dept. NDC, 4891 W. Lake St., Chicago 44, Ill.

For more details circle NED-620 E7 on enclosed inquiry slip

METAL BELLOWS SEALS function in −100 to 700° F range

Series of metal bellows seals which operate in a temperature range from −100 to 700° F is recommended for use where acids or solvents would destroy organic type seals. Many of these seals have been used successfully to seal radioactive oil, argon gas, hydraulic and synthetic oils, Freon 12 and 22 and many gases at very high revolving speeds and temperature extremes. Each is tailored to meet specific requirements and to fit definite shaft size and mating faces. Seals are supplied in brass, bronze, beryllium copper, Monel or stainless steel, with soft solder, silver solder, heliarc or resistant welded bellows joints. Made by **Cartriseal Corp.**, 3519 W. Touhy Ave., Lincolnwood 45, Ill.



For more details circle NED-621 E7 on enclosed inquiry slip

How to improve QUALITY CONTROL in your parts-handling operations

EEZY-STAK PARTS-HANDLING CONTAINERS SPEED PRODUCTION, PROTECT FINISHES, REDUCE REJECTS, CUT HANDLING COSTS!

Why risk damage to critical-finish, high-cost parts during intra-plant movement? Quality control begins with safe, dependable handling. From initial production through final assembly, you can depend on EEZY-STAK baskets to do a quality parts-handling job. Custom-designed to meet specific requirements, EEZY-STAK baskets protect against damage . . . speed production . . . reduce rejects! Available in a wide range of wire diameters. Sturdy, all-welded construction. Zinc plated to resist rust and corrosion. Patented inter-lock handle for easy stacking. Safe, compact parts storage. (EEZY-STAK baskets also available for bulk parts handling.)

Write today for Bulletin No. B-54

WIRE & IRON PRODUCTS, INC.

1727 SIXTEENTH STREET • DETROIT 16, MICHIGAN

For more details circle NED-622 E7 on enclosed inquiry slip

FHP motors . . . engineered especially for your product

The new RAE M-20 or M-100 Motor. Ventilated or enclosed. Designed for quality but not expensive. Strong, rugged casting. Ball or sleeve bearings. Can be used with any of RAE's gear units.
Winding —
M-20 — Universal or Shunt
M-100—Permanent Magnet (DC Shunt)
Voltage — 6 to 220 AC/DC or DC Shunt
Max. H. P. — 1/30 Continuous
Weight — Approx. 2 lbs.

RAE motors

RAE engineers are recognized specialists in solving difficult FHP motor applications. By careful analysis and testing of your product, they can save you time and money in selecting the right motor.

RAE offers outstanding service and quality in a large variety of motors. Available in voltages up to 250, and up to 1/6 H.P. (higher for intermittent duty) with many gearhead motor combinations.

Find out how RAE motors can *improve your product* and *reduce costs* as they are doing for other leading manufacturers.

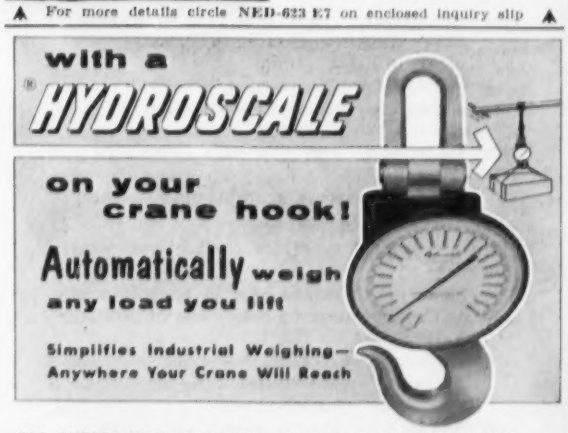
*Send for the "RAE" Engineering Data Sheet. It will help you supply the data necessary for recommendations and prices.

Rae MOTOR CORP.
2009 Kewaunee Street
Racine, Wisconsin

AC/DC Universal • DC Shunt Wound • DC Series Wound • Gear Reduction Motors • Governor Controlled Motors • Motors for Rheostat Control • Motors for Electronic Control • Permanent Magnet Motors and Gearmotors.

For more details circle NED-623 E7 on enclosed inquiry slip

with a HYDROSCALE



on your crane hook!

Automatically weigh any load you lift

Simplifies Industrial Weighing—Anywhere Your Crane Will Reach

ALL WEIGHING IS DONE ON YOUR CRANE HOOK
ENGINEERED AND BUILT FOR LONG SERVICE-LIFE
THERE ARE 110 MODELS IN THE COMPLETE LINE
TARE ADJUSTING KNOBS FOR NET LOAD READING
EASY-TO-READ DIALS AVAILABLE IN 3 SIZES

HYDROSCALES guaranteed

They are guaranteed to be free of defects in workmanship and materials, and to be accurate to 1/2 of 1% of the maximum dial capacity—

HERE ARE SOME TYPICAL WEIGHING APPLICATIONS

Just a few of the many applications include — loading, unloading, check weighing, batching, foundry charging, and protecting your equipment from overloading.

HYDROWAY SCALES, INC.

31288 Stephenson Highway • Royal Oak, Michigan

"The world's largest producer of crane scales"

For more details circle NED-624 E7 on enclosed inquiry slip

DOUBLE ACTING ONE-PIECE ALLIS PISTON CUPS

This is a combined piston and cup packing unit. Simple, extremely economical, it serves the same purpose as far more complicated and expensive pistons. Easy to install, downtime is held to minimum, cannot be installed backwards. Design simplicity means fewer inventory of parts. Gives long life, dependable service. Made of specially compounded rubber bonded to solid metal disc.

SINCE 1899 SEND FOR FREE BULLETIN 108

CHICAGO-ALLIS MFG. CORP.
Producers of CHICAGO BELTING • ALLIS RUBBER • ALLIS SEAL Products
130 NORTH GREEN STREET • CHICAGO 7, ILL.

▲ For more details circle NED-625 E7 on enclosed inquiry slip ▲

"Machinery Analyzer Saves Us $1000 Per Hour"

"We've had total savings of more than $100,000 since we purchased the analyzer three years ago. The analyzer has been shipped over 100,000 miles by air, rail, and car to our eight plants without need for repairs or replacements" — reports a leading chemical processor.

The Machinery Analyzer — actually a portable IRD Vibration Analyzer — is used for . . .

- TROUBLE SHOOTING — to pinpoint faulty components exciting vibration, *without costly dismantling.*
- MEASURING DISPLACEMENT — to accurately determine the condition of machinery, *without costly dismantling.*
- IN-PLACE BALANCING — to dynamically balance at operating speed the accessible rotating components, *without costly dismantling.*

Here are several examples cited by company officials:

- Detecting a broken gear in an important gear reducer saved a major loss of production.
- Savings of $2000 in balancing a ringer assembly, because dismantling and loss of production were eliminated.
- A 450 HP motor was balanced, in place, at savings of $8000 to $10,000 in production and maintenance costs.

What portable IRD Vibration Analyzers are doing for this company — to reduce inspection, maintenance, and production costs — it can do for your company.

IRD

For further information — or an actual demonstration on your own machinery by an IRD field engineer—write today to International Research and Development Corporation, 797-NE Thomas Lane, Columbus 16, Ohio.

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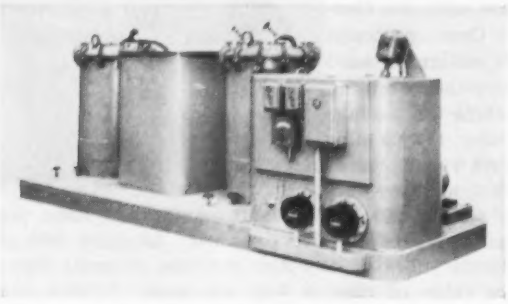
CASTING IMPREGNATOR
redesigned low pressure vacuum unit

Elimination of sharp tank corners allows sealants to agitate without loss of solids in redesigned low pressure vacuum casting impregnator. Exterior corners



of tanks and platform are also rounded for safety. Unit requires two water and one drain connection, using a vented overflow system to insure replacement of rinse water. Virtually noiseless watercooled vacuum pump produces vacuum of 29 in. of mercury in 4 minutes. Suited for use of Imprex metallic sealant in microporous and coarse porosity castings, the impregnator occupies a 4 x 12-ft area and operates on 115, 230, 450 or 560 v ac-dc. Made by **Ideal Industries, Inc.,** Imprex Div., 2025 S. 60th St., Milwaukee 19, Wis.

▲ For more details circle NED-627 E7 on enclosed inquiry slip ▲

DRIVE-IN STORAGE RACK
entire cube formed by rack is filled with pallets moved by fork lift

Utilizing all available overhead space and eliminating access aisles with its drive-in feature, Burlington Way bulk storage racks store a maximum amount of ma-

terial by literally "filling the cube." Multiple row rack permits penetration by the lift truck to the full depth of the rack.

Depth of pallets is determined by size of inventory, character of material stored and lift equipment. Slow-moving or bulk storage items can be placed on top shelves with clearance for trucks, and fast-moving items on lower shelves or floor level. Storage height limit is that of ceiling or lifting equipment. Racks can be rearranged to meet changing requirements. Made by **Burlington Fabricators Inc.,** Box 155-N, Burlington, N. J.

▲ For more details circle NED-628 E7 on enclosed inquiry slip ▲

- no clamps, no jaws
- no restrictions to size, shape or type metal
- no calculations or conversions
- no skill required
- accuracy guaranteed by individual calibration

available in scales corresponding to Rockwell and Brinell

Test any size, shape or type of metal anywhere! Use the versatile, 30 oz., portable, precision NEWAGE tester and eliminate the time, trouble and labor of getting work to a bench tester. Just press the hand grips and get answers in 30 seconds—inside or outside the plant, office or laboratory.

Write today for demonstration or booklet

NEWAGE INTERNATIONAL, INC.
222 OLD YORK ROAD • JENKINTOWN, PA.
Suburb of Philadelphia

▲ For more details circle NED-629 E7 on enclosed inquiry slip ▲

New Bulletin on
WORM GEARING
for designers and engineers

Yours for the asking Bulletin 145

Bring your file up to date with this new, complete bulletin on Cleveland worm gear drives. Shows all standard units, with engineering data. Also tells how to plan and order special designs.

THE CLEVELAND WORM & GEAR COMPANY
3283 East 80th Street • Cleveland 4, Ohio
Sales Representatives in all major industrial markets

CLEVELAND
Worm Gear
Speed Reducers

▲ For more details circle NED-630 E7 on enclosed inquiry slip ▲

PREVENTS HARMFUL VIBRATION

new Robertshaw Vibraswitch®
"Malfunction Detector"

Detects improper operation and anticipates component failures of rotating or reciprocating equipment

Actuates alarms or shuts down equipment when vibration exceeds the set limit

Responds to all kinds of vibration effects

Can ignore temporary, excessive vibration during start-up or normal operation

Simple and trouble-free . . . many types and housings available

® patents pending

SEND FOR BULLETIN

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Robertshaw-Fulton
CONTROLS COMPANY
FIELDEN INSTRUMENT DIVISION
Dept. F, 2920 N. 4th St., Phila. 33, Pa.

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the newest, latest
ALEMITE
Lubrication Fitting
CATALOG

This simple, easy-to-use catalog lets you quickly and accurately select the right type Alemite fitting for any bearing. Each fitting is illustrated actual size — complete with individual dimensions. Write for your free catalog now! Address Alemite, Dept. HH-57, 1850 Diversey Parkway, Chicago 14, Illinois.

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7382-SR

ON SILICONE RUBBER PARTS
for extreme temperature applications

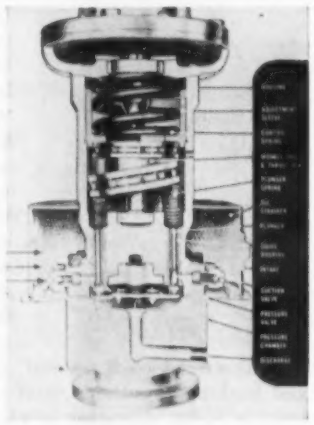
This 16-page illustrated multi-colored catalog is yours for the asking. It covers in detail more than 40 different rubber compounds, recommends applications for each type and suggests methods of fabrication or production which will provide maximum economy. Hundreds of different rubber shapes are shown and facilities for special rubber compounding are outlined.

Use publication inquiry slip or write direct to

STALWART RUBBER COMPANY
Manufacturing Plants in Jasper, Georgia and Bedford, Ohio
Main Offices at 151 Northfield Rd., Bedford, Ohio

For more details circle NED-633 E7 on enclosed inquiry slip

HIGH PRESSURE PUMP
develops 5700 psi in power service

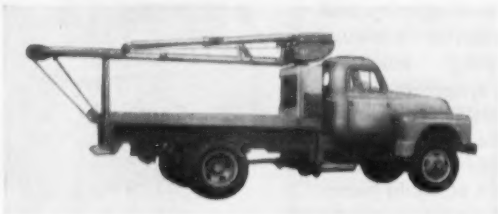


A pressure of up to 5700 psi can be developed by this variable delivery axial multi-plunger pump intended for hydraulic power applications. Oil delivery can be manually adjusted to any desired value, or can be left to vary automatically inversely with pressure-changes. This will save power during holding stages of press operating cycles. Sizes from 1½ to 30 hp are offered either as bare pumps or as package power units. Made by **Vibro Mfg. Co.**, Equi-Flow Div., Roosevelt Ave. at 61st St., Woodside 77, N. Y.

For more details circle NED-636 E7 on enclosed inquiry slip

HYDRAULIC TRUCK CRANE
has 5000-lb capacity

Only 18 in. of space behind truck or tractor cab is required by the Truck-Crane, a completely hydraulic unit which operates on a power-takeoff driven pump.



Boom swings 280 degrees and projects or retracts hydraulically in horizontal position, or at any point up to an 85° elevation. Both horizontal and elevating-type booms are available. Capacity is 5000 lb. Control levers are located on both sides of truck for operation from ground level. Relief valve prevents overloading. High pivot point of boom on the mast allows high loading right up against crane superstructure. Stability is provided by hydraulic outriggers. Made by **Anthony Co.**, 1651 Baker St., Streator, Ill.

For more details circle NED-637 E7 on enclosed inquiry slip

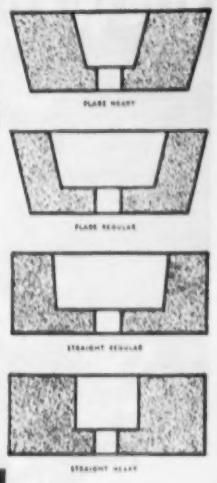
Production Marking Machines

Jas. H. Matthews & Co.—Production marking machines described and illustrated in three descriptive leaflets are designed for high speed production and can be adapted for integral line marking, if desired. Forms 146-C9, 146-C10 and 146-C17 respectively cover the 201 rotary table marker, the 79 shell marking and knurling machine and the No. 222 nameplate marker.

For more details circle NED-638 E7 on enclosed inquiry slip

For increased production . . .

ATLANTIC
"Job-Mated"
GRINDING WHEELS



A manufacturer of marine propellers raised finishing output 15% with the use of ATLANTIC "Job-Mated" GRINDING WHEELS. Closely-mated wheel characteristics with job requirements were credited as the main factors in making this increase possible. ATLANTIC representatives work on the basis that every grinding operation should be engineered for best results.

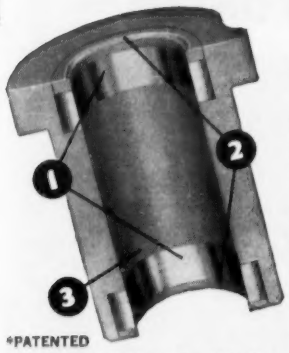
ATLANTIC Resinoid-Bonded CUP WHEELS are available in all popular shapes, sizes, grits and grades. Their wider lip design increases wheel life without sacrificing fast cutting qualities. Investigate their production possibilities. Consult your ATLANTIC ABRASIVE representative or write direct to ATLANTIC ABRASIVE CORPORATION, 504 Pearl St., South Braintree 85, Massachusetts.

For maximum safety, all ATLANTIC CUP WHEELS from 2½" up are speed-tested at a 50% higher speed than normally required.

ATLANTIC ABRASIVE CORP.
South Braintree 85, Massachusetts

For more details circle NED-639 E7 on enclosed inquiry slip

INCREASE PRODUCTION.. SAVE TIME & MONEY



MEYCO
Carbide Inserted Bushings Are Doing It Daily!

How? Like this: (1) Last longer . . . with a life—in most cases—as long as solid carbide bushings at prices that approach the price of steel bushings; (2) Increased life for your drill jigs and fixtures; (3) Increased life for your drills and reamers; (4) Accuracy maintained for a LONG PERIOD of time; (5) Less non-productive machine time, less lost man-hours, because bushings need not be changed as often; (6) Inspection time saved, because of greater accuracy for a longer time; and (7) Less waste due to spoilage, for the same reason. Don't pass up a good bet! Get the dope on MEYCO Carbide Inserted Drill Jig Bushings today!

*PATENTED
1. Tungsten carbide rings at the points of wear; 2. Steel rings protect drills and carbide; 3. Special hardened alloy steel body.

For information and prices write for MEYCO Bushing Catalog No. 49

ESTABLISHED 1888

W. F. MEYERS CO., INC., BEDFORD, INDIANA

For more details circle NED-634 E7 on enclosed inquiry slip

AMERICAN STANDARD®
LADDERS

For more information, write:
LOUISVILLE LADDER COMPANY,
Dept. N-5, 1101 West Oak St.,
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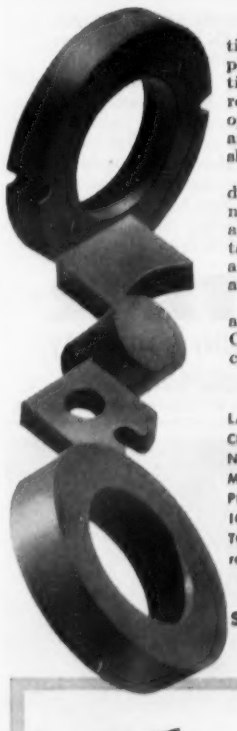
LOUISVILLE
ALL TYPES OF ALUMINUM LADDERS PLANKS STAGES

For more details circle NED-635 E7 on enclosed inquiry slip

NOW! A NEW PEAK IN

Magnetic Permanency!



It's next to impossible to demagnetize Stackpole Ceramagnet® (ceramic) permanent magnets under any condition of use! Magnetism is permanently retained even in the presence of strong opposing fields or when the magnets are used without "keepers" or other short-circuit conditions.

Ceramagnet magnet energy product is adequate for practically any need. Non-critical ceramic materials are used exclusively. Electrical resistance approaches infinity. Eddy losses are practically nil. Permeability of approximately 1.0 is about that of air.

In most applications requiring relatively large sizes or intricate shapes, Ceramagnet Magnets show important cost savings.

Present and potential uses include:
LATCHES • DRIVES • POLE PIECES • DOOR CHECKS • SHUNTING CONTACTORS • MAGNETIC CHUCKS • MOTOR ROTORS • TOYS METERS • RELAYS • OIL FILTERS • COUPLINGS • SMALL GENERATORS • MAGNETOS ION TRAPS • H-F ALTERNATORS • REGULATORS • FOCUSING or DEFLECTING for cathode-ray tubes . . . and dozens of other applications.

WRITE FOR CATALOG RC-10A

STACKPOLE CARBON COMPANY
St. Marys, Pa.

4 POLES ON ONE FACE

As in this typical magnetic drive unit, Stackpole Ceramagnet permanent magnets may be magnetized in various arrangements with 4-6 or even 8 poles on one face.

A SEALED MAGNETIC DRIVE

Ceramagnet assemblies offer unique possibilities as drives and clutches, including sealed applications where unquestioned magnetic permanency is a "must".

STACKPOLE Ceramagnet®

The Permanent Magnets that are **REALLY PERMANENT**

For more details circle NED-640 E7 on enclosed inquiry slip

UNWIELDY PARTS HELD TIGHT

At North American Aviation, Inc.

The picture above shows two sizes of dependable Knu-Vise clamps as they are used on a setup designed by North American's tooling specialists. Operation is the assembly of a bulky, hard-to-handle fuselage section of a F-100 Super Sabre.

With speeds faster than sound becoming more and more common, quality control measures and exacting tolerances in aircraft production are vital. That's why positive—fast to grip—quick to release Knu-Vise clamps are so important. Many fixtures are designed for air or oil operated clamps; others, like North American's, for manual operation. Lapeer furnishes a complete line numbering more than 150 models of clamps and pliers. Better investigate this versatility—today. Just write.

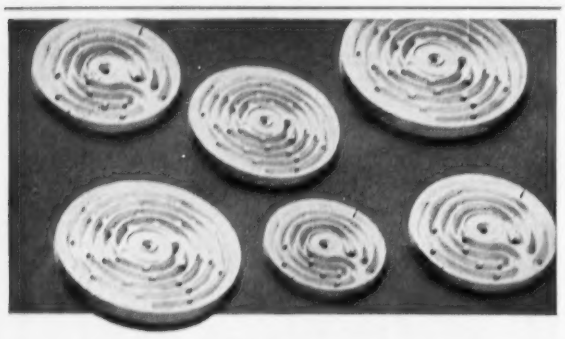
Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS LAPEER MANUFACTURING CO.

3062 DAVISON ROAD • LAPEER, MICHIGAN

WESTERN DIVISION: 422 Magnolia, Glendale, California • CANADIAN DIVISION: Higginson Engr., Hamilton, Ontario

For more details circle NED-645 E7 on enclosed inquiry slip



now is the time . . .

. . . to get the jump on Christmas appliance production with Star THERMOLAIN Standard Shapes for Heating Devices. Any standard plates—from 2⅝" to 8" diameter, including the popular 5¾" heater brick, are available for your application. Remember, an early order assures early delivery, so why not take action NOW? Our new data sheet shows sizes, weights and other pertinent information. Write for a free copy *today*. The Star Porcelain Company, 50 Muirhead Avenue, Trenton 9, N. J.

the STAR porcelain company

Calif. Representatives:
So. Calif.: Edwin E. Starr, 4101 Rhodes Ave., N. Hollywood, Calif. STanley 7-5879.
No. Calif.: Thermo Materials, Inc., 44 Encino Ave., Palo Alto, Calif. DAvenport 6-2780.

For more details circle NED-646 E7 on enclosed inquiry slip

New! Just $109.50 – world's only orbital-action bayonet saw!

Cuts wood, aluminum, steel!

Now—the first *real* improvement since portable jig saws were invented! It's Porter-Cable's revolutionary new Model 148—*guaranteed to outperform any other portable jig saw at any price!*

Orbital action makes the difference. Blade teeth are in contact only on the cutting stroke—*back away* on the relief stroke. Harmful "drag" is completely gone—and perfomance reaches a new high.

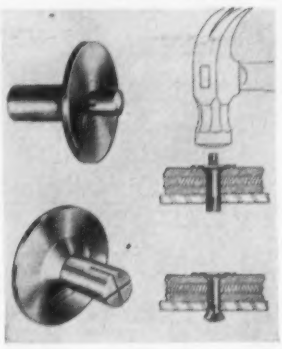
Model 148 cuts up to 4 times faster than the best conventional saws. Full 2" capacity in wood—¾" in aluminum, ¼" in steel. See your Porter-Cable dealer—or write today for full information.

PORTER-CABLE Machine Company
7125 N. Salina Street
Syracuse 8, New York

Porter-Cable
Quality Power Tools

For more details circle NED-647 E7 on enclosed inquiry slip

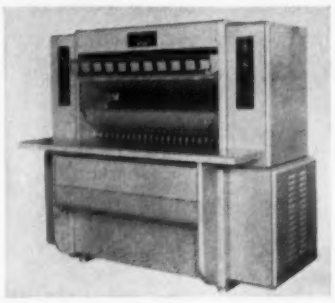
BLIND DRIVE RIVET attaches plywood to metal surfaces



Large under-head bearing area of Ply-Head blind drive rivet permits high loading pressures without failure of the board surface. They are used for installing plywood and composition board in truck and trailer linings, to curtain walls and equipment cases. Placed in a predrilled hole, rivet is set by driving the pin flush with the head to force end apart, thus pulling board and backing together. Flat and oval flat head styles have a ⅝-in. diameter head and countersunk shoulder. Shaft is 3/16-in. diameter. Six lengths accommodate grips from 5/16 to ⅝ in. Made by **South Chester Corp.**, Southco Div., 243 Industrial Highway, Lester, Pa.

For more details circle NED-648 E7 on enclosed inquiry slip

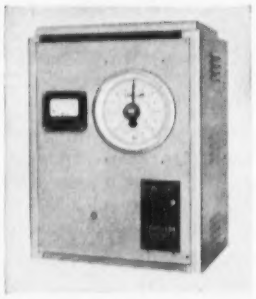
WHITEPRINTING MACHINE speeds up to 45 fpm



Ammonia type diazo whiteprints are processed at speeds up to 45 fpm by this automatic whiteprinting machine. Its front and rear suction tanks separate original and sensitized material, and a solenoid pump assures accurate metering of full-strength ammonia. Machine has a 4000-w light source. Made by **Paragon-Revolute Corp.**, Dept. NED, 77 South Ave., Rochester 4, N. Y.

For more details circle NED-649 E7 on enclosed inquiry slip

DYNAMOMETERS seven models offered in two series, capacities to 400 oz-in. and 64 lb-ft

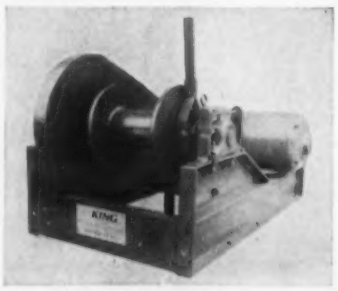


The 300 series of running torque testers and dynamometers includes two models with 200 oz-in. torque capacity and 2 oz-in. minimum graduations and 400 oz-in. capacity with 4 oz-in. graduations. Torque accuracy of both units is within 1 per cent. Continuous, ½-hour and 15-minute power dissipation of model 311-RT/DY is 0.16, 0.32 and 0.64-hp, respectively, while for model 321-RT/DY, it is 0.2, 0.4 and 0.8-hp. Maximum speed of both models is 14,000 rpm.

The 400-series of testers for hydraulic motors, servo mechanisms and other applications is comprised of five models with 4, 8, 16, 32 and 64-lb-ft capacities. Interchangeable springs permit reduction in capacities to 2, 4 and 2, 8 and 4, 16 and 8, and 32 and 16 lb-ft per unit, respectively. Accuracy within ½-per cent, and continuous power dissipation per tester is 0.8, 1.2, 2.4, 4.8 and 5.25-hp. Lowest capacity machine has a maximum speed of 500 rpm, while the others have a 4000-rpm maximum. Made by **John Chatillon & Sons**, 93 Cliff St., New York 38, N. Y.

For more details circle NED-650 E7 on enclosed inquiry slip

CAR PULLING WINCH has free-wheeling cable drum

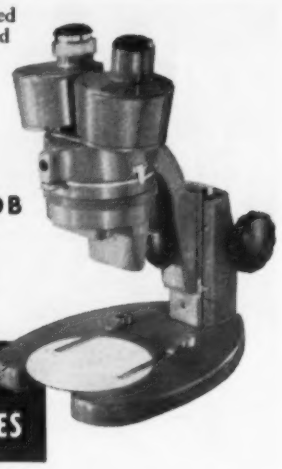


The 30-fpm pulling speed of this winch type car puller is provided by 5-hp motor and gear speed reducer. Free-wheeling cable drum permits fast payout of cable for hooking onto a car or barge to be pulled to location. Jaw clutch affords control. Winch will easily handle a fully-loaded freight car. Made by **King Mfg. Corp.**, 3155 W. Chicago Ave., Chicago 22, Ill.

For more details circle NED-651 E7 on enclosed inquiry slip

SEE how big 3-D views speed assembly, measurement and inspection of tiny parts

FREE 15-DAY ON-THE-JOB TRIAL!



Bausch & Lomb STEREOMICROSCOPES

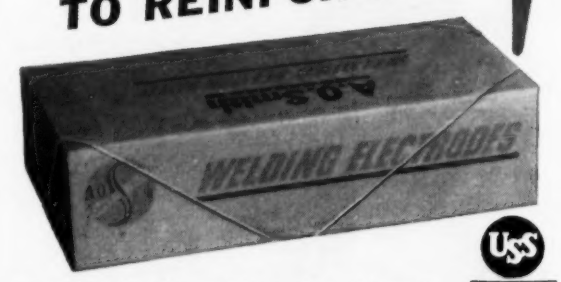
These essential production tools make small-parts manufacture faster and easier, make precision surer. Views are vivid, magnified in natural 3-dimensional detail. Complete line fits exact model to your specific industrial needs. Dustproof, shockproof, built for rugged production-line use—you can mount them right on machines!

See for yourself! Use a B&L Stereomicroscope on your own job for 15 days—absolutely free, no obligation. All we ask is the opportunity to let our Stereomicroscopes prove themselves to you.

Just call your regular B&L dealer, or WRITE (on company letterhead, please) to Bausch & Lomb Optical Co., 72717 St. Paul St., Rochester 2, N. Y.

For more details circle NED-652 E7 on enclosed inquiry slip

AN ANGLE TO REINFORCING



The angle is the "diagonal tie" made on this small, but heavy, box of welding electrodes. This tying technique seals the box securely, and reinforces top, bottom, sides, and ends.

You, too, can apply GERRARD Steel Strapping to your packaging operation. Write NOW for a free copy of USS GERRARD'S new 36-page Blue Book of Packaging.

GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL CORPORATION
4717 South Richmond Street, Chicago 32, Illinois

USS GERRARD ROUND STEEL STRAPPING FLAT STEEL

UNITED STATES STEEL

For more details circle NED-653 E7 on enclosed inquiry slip

if IRON doesn't BELONG . . . IN YOUR PRODUCT

FERRO FILTER

ELECTROMAGNETIC SEPARATORS belong in your PLANT

By installing Frantz FERROFILTERS, you can have high efficiency and economy in the removal of even the very small iron particles — those "little tramps" which may be contaminating the dry materials you make or buy, use or sell. The material shakes down over the sloping vanes of grids whose strongly magnetized edges catch and hold magnetic particles until the current is turned off.

S. G. FRANTZ CO., INC.
Brunswick Pike & Kline Ave.
P. O. Box 1138 Trenton 6, N. J.
Write for Bulletin 56-E

For more details circle NED-654 E7 on enclosed inquiry slip

HAVE YOU TRIED...

FLIGHTEX GLASS CLOTH

AND

FLIGHTEX FLIGHTEX FABRIC INDUSTRIAL FABRICS

If you use special industrial fabrics and mechanical tapes, you'll find Flightex a dependable source of supply. Our staff of engineers is at your service to help solve your fabric and tape problems.

Write for Complete Information

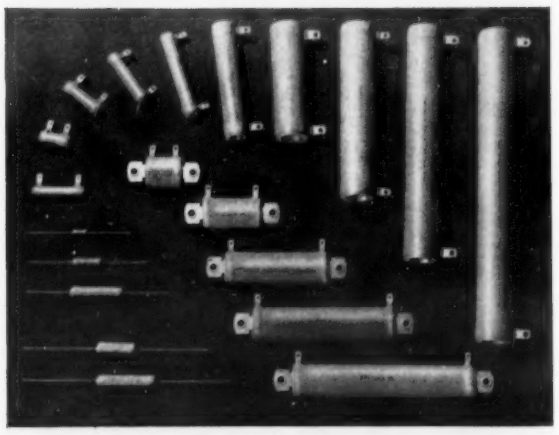
FLIGHTEX FABRICS, INC.

93 Worth Street • New York 13, N. Y.

For more details circle NED-655 E7 on enclosed inquiry slip

NOW!

Vitrohm MIL-R-26C Resistors in all styles!



Famous Ward Leonard Vitrohm® vitreous-enameled resistors are now available in every style to meet all requirements of Military Specification MIL-R-26C.

What's more, this line offers you *all* characteristics—G, V, and the exacting Y—and *all* specification sizes and resistance values—even the highest values using the finest wire (0.00175").

Tab-terminal, axial-lead and stack-mounting types are available in styles and characteristics shown in table below.

For complete data on these MIL-R-26C resistors, write us for Bulletin 12. (And incidentally, for Vitrohm resistors to *highest commercial and industrial standards*, get W/L Catalog 15.) Ward Leonard Electric Co., 51 South Street, Mount Vernon, N. Y. In Canada: Ward Leonard of Canada Ltd., Toronto. 7.10

ENGINEERING DATA

TYPE	STYLE	AVAILABLE IN CHARACTERISTICS	RESISTANCE RANGE
Stack Mtg.—Tab	RW20 thru 24	G	All values in Spec.
Tab terminal	RW29 thru 47	V, Y* and G	All values in Spec.
Axial lead	RW55 thru 59	V and G	All values in Spec.†

*Characteristic Y applies to styles RW30, 33, 37 and 47 only. Characteristic Y is similar to V but requires high insulation resistance at end of moisture-resistance tests.

†Maximum values for single-layer-wound resistors with 0.00175" diameter wire.

LIVE BETTER...*Electrically*

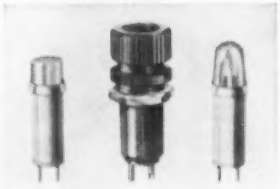
WARD LEONARD ELECTRIC CO.

Result-Engineered Controls Since 1892

RESISTORS • RHEOSTATS • RELAYS • CONTROLS • DIMMERS

For more details circle NED-656 E7 on enclosed inquiry slip

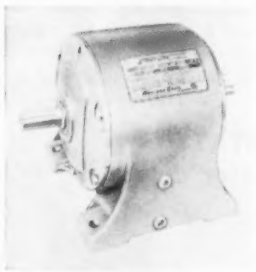
MINIATURE INDICATOR LIGHT
has neon or incandescent lamp



Mounting hole of 3/8-in. diameter is required for the E-lite 1 DH miniature indicator light. Neon or incandescent plug-in lamp is replaceable from the front. Lenses of tough plastic are available in red, amber and clear for both lamps and also blue and green for incandescent lamp. Starting voltage of the 1/25-w neon lamp is 65 to 85 v and life exceeds 10,000 hours. Incandescent lamps have 6, 12-14 and 24-28 v ratings. Uses include computers, control systems, telemetering equipment and aircraft instruments. Made by **Eldema Corp.**, 9845 Remer St., El Monte, Calif.

For more details circle NED-657 E7 on enclosed inquiry slip

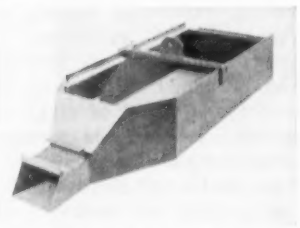
SPEED REDUCERS
in 3 to 50-hp ratings



Line of speed reducers includes double reduction units rated from 7.5 to 50 hp and triple reduction units in 3 to 40 hp ratings. Ratios for former range from 3.39 to 57.3-to-1, while for latter units, ratios from 38.2 to 190.7-to-1 are available. Input speeds run from 400 to 1750 rpm. Speed reducers are reported to be over 95 per cent efficient. They have crown-shaved alloy steel helical gears, shafts and bearing designed for heavy overhung loads, and splash lubrication. Made by **Western Gear Corp.**, Box 182A, Lynwood, Calif.

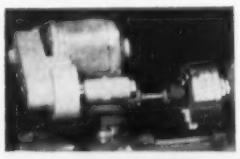
For more details circle NED-658 E7 on enclosed inquiry slip

HOIST PANS
expedite loading of chips



Loading of chips and other media into tumbling barrels is facilitated with welded steel hoist pans made in capacities from 4 to 14 cu ft. Units are fitted with a balanced yoke at top which provides for crane or hoist hook. Rollers or roller bearing wheels permit pan to be rolled from storage bin to storage bin to obtain chips of proper sizes. Pan is then lifted by hoist and carried to the barrel. Chips funnel down a chute at front end through the barrel door. Models 4, 6.5, 11 and 14 respectively hold 500, 800, 1400 and 1800 lb of fused aluminum oxide chips. Made by **Lord Chemical Corp.**, Dept. A1, 2068 S. Queen St., York, Pa.

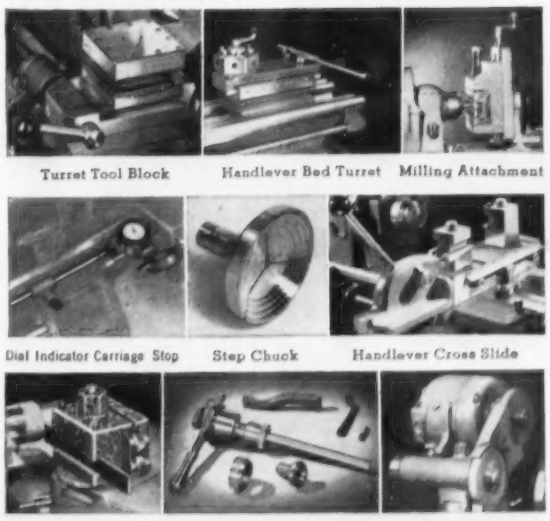
For more details circle NED-659 E7 on enclosed inquiry slip



Internal Grinder

SOUTH BEND Lathe Attachments

• Increase Lathe Versatility
• Simplify Difficult Jobs



Turret Tool Block — Handlever Bed Turret — Milling Attachment

Dial Indicator Carriage Stop — Step Chuck — Handlever Cross Slide

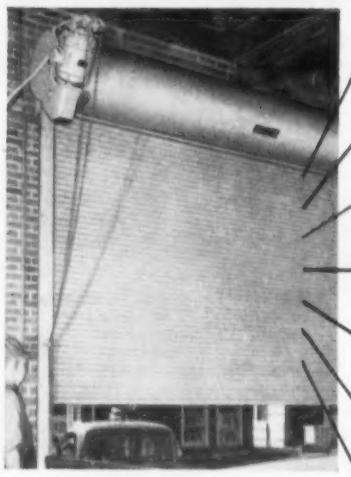
10-in-1 Tool Holder — Handlever Collet — External Grinder

WRITE FOR CATALOG 5700 SOUTH BEND LATHE

Building Better Tools Since 1906 • SOUTH BEND, INDIANA

For more details circle NED-660 E7 on enclosed inquiry slip

Kinnear Rolling Doors



Door rises straight upward—completely out of the way.

Clears the entire opening, stays out of reach of damage.

All ceiling space is clear—for hoists, conveyors, ducts, etc.

Steel jambs anchor curtain against wind or storm damage.

Rugged, all-metal resistance to fire, storm or intrusion.

All floor and wall space around door always fully usable.

Built to fit any opening—for manual or motor operation.

The KINNEAR Mfg. Co.

FACTORIES:
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Offices and Agents in All Principal Cities

Write for the new Kinnear catalog.

SAVING WAYS in DOORWAYS

KINNEAR ROLLING DOORS

For more details circle NED-661 E7 on enclosed inquiry slip

CEC's Vaporizer Regulator

Delivers completely vaporized samples pressure-regulated to within ± 0.1 psig

Ideal for use with gaseous-type process analyzers and monitoring instruments, CEC's 38-001 Vaporizer Regulator vaporizes liquid samples with boiling points up to 300° F. It provides completely vaporized samples regulated precisely to within ±0.1 psig. Installed at the sample point, the 38-001 greatly reduces the time lag usually present when transmitting a liquid sample. Rugged, weather-proof construction permits outdoor use. Spring-loaded design allows mounting in any position, since gravity has no effect on operation. For complete information contact your nearby CEC field office, or write for Bulletin CEC 1832-X2.

Consolidated Electrodynamics

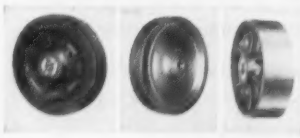
CEC 300 North Sierra Madre Villa, Pasadena, California

OFFICES IN PRINCIPAL CITIES THROUGHOUT THE WORLD

For more details circle NED-662 E7 on enclosed inquiry slip

Lift Jack and Semi-Live Skids-

...Make an ideal Low Cost HANDLING SYSTEM



WHEELS

PLASTIC
RUBBER
METAL

Ironbound — IRONBOUND

55 Hoffman Place • Hillside, N. J.

For more details circle NED-663 E7 on enclosed inquiry slip

THERE'S NOTHING ELSE LIKE FIBRE-METAL'S NEW...FULL VIEW

#55 Solo goggle™

A "Picture Window" View and Maximum Safety for BRAZING, CUTTING, GAS WELDING, GRINDING and similar hazards.

COOL, LIGHT, COMFORTABLE

No. F-550 "Solo goggle" . . . with Headrest for snug or ventilated off-the-face wear. Wide Range Adjustment fits any head size.

INSIDE VIEW of "Solo goggle" . . . showing patented (Designed for Safety) positive retention spring. Lens easy to replace.

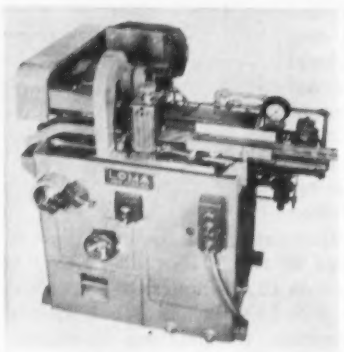
This NEW single-cup "Solo goggle" fits easily over Spectacle goggles and personal prescription glasses *for extra protection*. Molded of light, rugged plastic, *"Solo goggle"* is flame resistant and non-irritating to the skin. A *patented spring retainer* makes the filter lens and cover glass easy to change. The spring is of one-piece design . . . SAFE because it has no sharp ends or edges. "Solo goggle" affords a full, unobstructed view of work! *Order this newest and best eye protection NOW from your Safety and Welding Distributor!*

ASK YOUR SAFETY & WELDING SUPPLY DISTRIBUTOR for Bulletin #53, or WRITE US.

The FIBRE-METAL Products Company | CHESTER PENNA.

For more details circle NED-664 E7 on enclosed inquiry slip

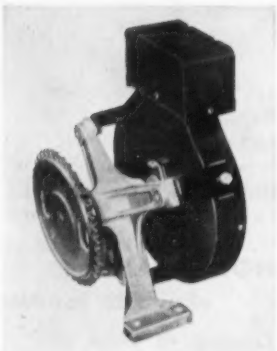
AUTOMATIC CUTOFF SAW
cuts tubes and rods to length



Nonferrous tubes and rods from ¼ to 4-in. diameter are automatically cut to close length tolerances by this production circular cutoff saw. Adjustable oscillating saw blade movement facilitates multiple strand sawing. Action is effected by a combination oil-air system of cylinders. Air-operated clamping mechanism holds material down on either side of the blade. Clamps are neoprene-lined and feature adjustable pressure. Entire sawing cycle is automatically controlled and interlocked. Advance of stock along the feed-in table is usually obtained by a motor driven belt conveyor. Lengths up to 12 in. can be cut. Made by **Loma Machine Mfg. Co.,** Dept. NED, 114 E. 32nd St., New York 16, N. Y.

For more details circle NED-666 E7 on enclosed inquiry slip

DANCER ROLL RHEOSTATS
for use on multimotor drives



Relative speeds between motors on multimotor drives can be maintained within specified limits by Bulletin 60 dancer roll rheostats. Applications include dancer roll service in textile, paper, steel mill and other process machinery. Single or multi-deck 6, 8 or 13-in. Vitrohm pressed steel rheostat for shelf, floor or ceiling mounting is offered with mounting bracket and optional sprocket and chain. Sprockets can be added or removed without disturbing the assembly. Control of single or multiple circuits from a single assembly is permissible. Up to 161 control steps per plate are available. Made by **Ward Leonard Electric Co.,** 51 South St., Mt. Vernon, N. Y.

For more details circle NED-667 E7 on enclosed inquiry slip

CORRECTION

In the description of the PDC-AM24 Geneva motion indexing table (*NED-734 March* '57), the address of the manufacturer was incorrectly given. The maker of this 16 to 32-station air-operated mechanism which takes up to 35-in. diameter dial plates is Precision Detroit Co., 20100 Sherwood Ave., Detroit 34, Mich.

For more details circle NED-668 E7 on enclosed inquiry slip

NEW FLOORING SHEETS
are ready-made, easy-to-lay

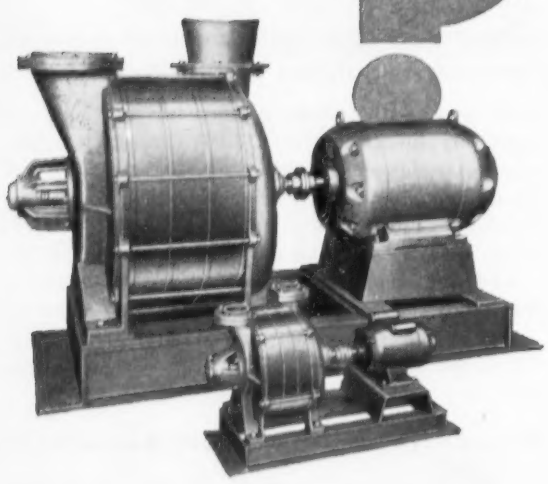
A new "ready-to-lay" flooring that is easier and faster to install than any other industrial type is announced by The Monroe Company, Inc., Cleveland. Known as "Nu-Flor", it consists of hard, durable pre-formed sheets that can be laid without mixing, tamping, rolling, etc. It is manufactured in standard block sections, 2 ft. x 3 ft. and ¼-inch thick. Put down side by side and cemented with a special adhesive, these sheets form a solid new floor that is claimed to outlast concrete. And, traffic can roll over the new surface immediately after application.

Nu-Flor is recommended for use over concrete, wood or steel floors. It withstands the heaviest industrial loads and is a perfect surface for hand or power trucking. Other features are resiliency (easy on feet), quietness (cuts traffic noise) and freedom from chipping and cracking (completely dustless).

Nu-Flor is furnished in standard packages of 8 sheets, each 2 ft. x 3 ft. One package covers 48 sq. ft. of floor. Where machinery or pipes project, sheets can be cut or shaped with a linoleum knife. Write for Bulletin 1089—**The Monroe Company, Inc., 10723 Quebec Ave., Cleveland 6, Ohio.** *Advt.*

For more details circle NED-670 E7 on enclosed inquiry slip

need a low-cost supplementary air supply



Before you buy additional high-cost, high-pressure equipment
If your present high-pressure supply is overtaxed
Even if your supply is not overloaded

SURVEY YOUR PRESENT—AND FUTURE—USES OF AIR!

You will save your company money . . . production headaches . . . add extra measures of efficiency to every installation, by investigating the proved economies of *low-maintenance, low-cost* Lamson Billmyre Centrifugal Blowers and Exhausters.

From 100 to 25,000 C.F.M., from ½ to 500 H.P., in single or multi-stage design, Lamson Blowers and Exhausters deliver the right amount of clean, dry air or gas—without pulsation. Pressure or vacuum always remains nearly constant at all capacities . . . with H.P. proportional to actual volume delivered. Shipments are rapid . . . installation is on-the-spot.

And remember, Lamson Blowers and Exhausters are backed by over 50 years of sound, practical engineering, time-proved design and skilled workmanship.

FREE LITERATURE!

Write for your copy of Bulletin B-7 describing the advantages of Lamson Billmyre Blowers and Exhausters

LAMSON

LAMSON CORPORATION
173 Lamson St., Syracuse 1, N. Y.
Plants in Syracuse and San Francisco
Offices in Principal Cities

For more details circle NED-665 E7 on enclosed inquiry slip

DELAVAN
Spray Nozzles
for Industrial use

You'll find the nozzle to meet your specific requirements in the complete selection offered by Delavan, one of the world's leading producers of high-quality precision nozzles.

Write for Catalog 32 for complete details and specifications.

DELAVAN Manufacturing Co.
WEST DES MOINES, IOWA

For more details circle NED-671 E7 on enclosed inquiry slip

7391-LWE

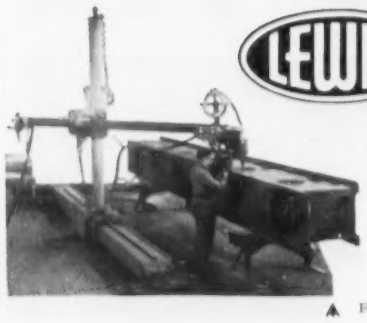
ONLY THE
LEWIS "UNIVERSAL"
GIVES YOU MACHINE TOOL ACCURACY
FOR EVERY AUTOMATIC WELDING JOB

For precision welding . . . plus portability . . . none can equal the LEWIS automatic welding head manipulator. Heavy-duty design and construction . . . machined and hardened ways . . . make the "Universal" both machine tool accurate and portable.

Once a "Universal" is positioned . . . a quick, easy job . . . it operates accurately and consistently. It releases valuable production floor space ordinarily consumed by a fixed installation. In addition, it will accommodate any standard submerged arc or inert gas-shielded arc welding head.

Machine tool construction and precision . . . complete adjustability . . . and ready portability are standard features available only in the LEWIS "Universal".

LEWIS

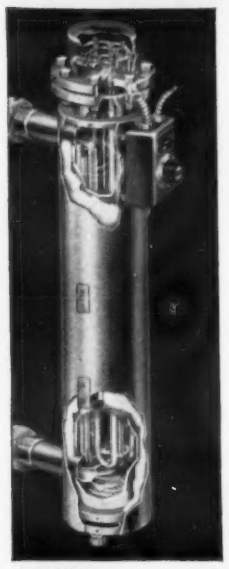


Write for Bulletin 6960 for details and prices

THE LEWIS WELDING & ENGINEERING CORP.
WELDING DIVISION 14 INTERSTATE STREET, BEDFORD, OHIO

For more details circle NED-669 E7 on enclosed inquiry slip

Convert to CHROMALOX® ELECTRIC Circulation Heaters with new higher ratings



• fast • automatic • economical

For controlled heating of water, oil, heat transfer media, steam, air and other gases.

Low cost installation and maintenance.

Automatic thermostatic control—set it and forget it . . .

No flame, flues, fumes. No smoke. No soot.

Compact, completely packaged. Built-in heating elements, heating chamber, thermostat and insulation. All you need do is connect 2 pipes, 2 wires.

Free Bulletin

Get the full story. Call your Chromalox Representative or write us today for Bulletin 701.

See other ad on page 4

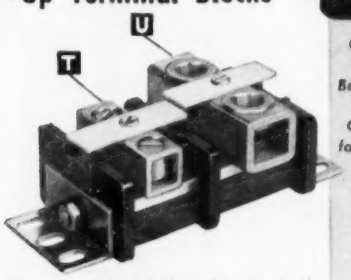
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

C-2116

For more details circle NED-672 E7 on enclosed inquiry slip

NOW CURTIS Types "T" and "U" Built-Up Terminal Blocks

for 125 and 250 Amp. Loads



Curtis Terminal Blocks Make Better Connections Economically—Quickly. A type for every purpose.

Connections are made quickly and economically in high-conductivity, high-pressure solderless connector terminals. The flexibility of Curtis Built-up Construction permits any combination of Types "T" and "U" in the same block and also the inclusion of Curtis 75 amp. Type "H" and 30 amp. Type "BT" Terminals for a truly versatile block. It is only necessary to strip the wire (¾" on Type "T"; 1-⅛" on Type "U"), insert and tighten screw. Plated steel mounting hardware and white fibre marking strips are standard. Ratings: Type "T"-125 amps., #6 to #1/0 AWG. Type "U"-250 amps., #4 to #4/0 AWG. 750 V.

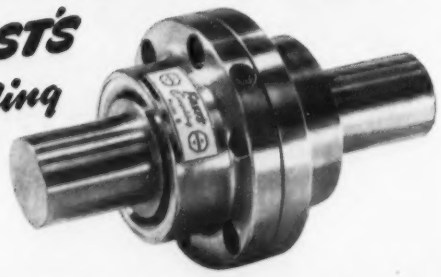
Ask for Bulletin No. 3

CURTIS DEVELOPMENT & MFG. CO.
3206 North 33rd Street, Milwaukee 16, Wisconsin

For more details circle NED-673 E7 on enclosed inquiry slip

The incomparable Model B

FAST'S Coupling



LOW-COST POWER TRANSMISSION!

Designed for light and medium drives—fans, blowers, pumps—a lighter, smaller and lower priced Fast's Coupling! The same famous features found in all Fast's Couplings . . . the same mechanical flexibility, the same positive lubricating principle, the same rugged construction and trouble-free performance . . . the same highly efficient power transmission which has made Fast's Couplings the leader for more than 30 years! Available for shaft sizes up to 2⅝" and sold with Koppers' free engineering service. For the solution to your shaft coupling problem, write: Koppers Company, Inc., *Fast's Coupling Dept.*, 3805 Scott Street, Baltimore 3, Md.

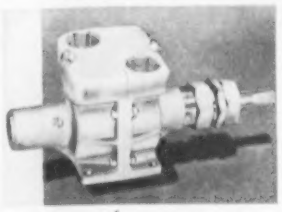
KOPPERS

THE ORIGINAL **FAST'S Couplings**

METAL PRODUCTS DIVISION • KOPPERS COMPANY, INC. • BALTIMORE 3, MD. This Koppers Division also supplies industry with American Hammered Industrial Piston and Sealing Rings, Industrial Gas Cleaning Apparatus, Aeromaster Fans, Gas Apparatus. **Engineered Products Sold with Service.**

For more details circle NED-674 E7 on enclosed inquiry slip

CORROSIVE FLUID PUMP stainless units deliver up to 10 gpm

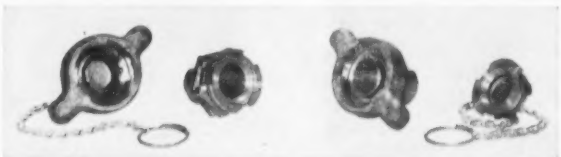


Constructed of 304 molybdenum-free stainless steel, this self-priming positive displacement pump is suited for lab or production operations involving corrosive and hazardous fluids. Chemically inert Teflon impellers and bearings are standard, and either plastic Teflon packing or fluid Teflon stuffing box seal can be chosen. Reversible, twin-rotor units deliver up to 10 gpm at pressures up to 75 psi. Pumps are offered in conventional types of mountings and with electric motor, air motor, pulley and chain drives. Made by **Eco Engineering Co.**, Dept. NED, 12 New York Ave., Newark 1, N. J.

For more details circle NED-675 E7 on enclosed inquiry slip

HOSE COUPLINGS for low temperature service

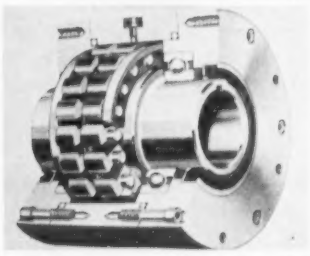
Mechanical cam action provides metal-to-metal pressure contact in line of Hofman Quick Couplings. Only a one-quarter turn is required to open or close. Bronze



couplings are available in 1, 1½, 2, 2½, 3 and 4-in. sizes for low temperature apparatus applications. Armored transfer hoses with couplings installed can be furnished. Made by **Hofman Laboratories**, Dept. A, 214 Wright St., Newark 5, N. J.

For more details circle NED-676 E7 on enclosed inquiry slip

OVERRUNNING CLUTCHES also for indexing and backstopping



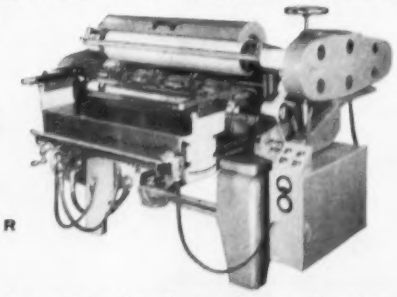
Seals incorporated in two series of double ball bearing sprag clutches suit them for applications where light oil must be retained, or for use where abrasives are present in the atmosphere. Series B is for true overrunning applications in low speed service where the inner race overruns. Bore diameters from 2¼ to 5½ in. have torque capacities from 1875 to 11,600 lb-ft. Series C for indexing and backstopping applications is offered in 2¾ to 5½-in. bore diameters. Torque capacities range from 3160 to 11,600 lb-ft. Made by **Formsprag Co.**, 23595 Hoover Rd., Van Dyke, Mich.

For more details circle NED-677 E7 on enclosed inquiry slip

Here It Is

A STANDARD *Economy* UNIT DEVELOPED IN COLLABORATION WITH CUTLERY EXPERTS

******
CLAIR MODEL NO. 402 GLAZER AND MIRROR FINISHER
******
******



Standardized especially for fine cutlery and related applications . . . . with emphasis upon safety and efficiency - - *at a volume "package" unit price.*

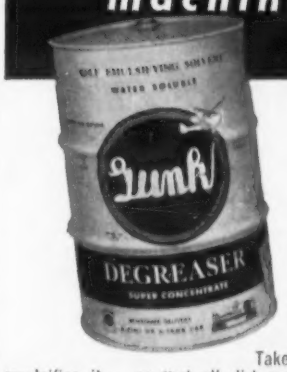
No departure from the basic design principles and manufacturing quality for which *all* CLAIR machines are famous. Model No. 402 splendidly meets the performance requirements imposed by the cutlery industry for any surface finishing operations on blades or handles, flat or contoured; from a rough glaze to a mirror surface. Model 402 can be converted to an "Edger" in a few minutes.

CLAIR MANUFACTURING CO., Inc., OLEAN, N.Y.

Offering the Most VERSATILE Line of Surface Finishing Machines

For more details circle NED-678 E7 on enclosed inquiry slip

DEGREASER! machinery shampoo



SPRAY OR BRUSH ON . . .

Takes cling out of oil and grease . . . emulsifies it . . . so that all dirt may be hosed off. Launders engines, lathes, machinery, faster, more completely than steam cleaning. Self scouring action brings out factory new appearance . . . provides accurate visual inspection. Where work will not withstand the use of water for rinsing, we can recommend suitable GUNK replacement. (GUNK is also an excellent paint brush cleaner.) Shipped in concentrated form . . . 55 gal. drum makes 500 gals. heavy-duty Degreaser! Genuine GUNK is sold in bulk sizes at better industrial wholesalers everywhere!

IMMEDIATE DELIVERY 1 PINT OR A TANK CAR

CURRAN CORP. Mfg. Chemists LAWRENCE, MASS.

(CHICAGO PLANT) GUNK CHICAGO CO. • CHICAGO 38, ILL. • (LICENSEE)

For more details circle NED-679 E7 on enclosed inquiry slip

SNAP-LOCK TRADE MARK LIMIT SWITCHES

SNAP-LOCK Limit Switches have separate enclosures within a single housing for mechanical and electrical sides. Can be furnished WATER and OIL TIGHT.

The STANDARD of Limit Switches, SNAP-LOCK can be used for single, double or distribution circuit wiring—AC or DC. Self-wiping coin silver contacts insure quick action make and break. Simple snap-action locking mechanism for long-lived trouble-free operation has ample overtravel plus safety travel. Variety of standard operating levers available.

Send for BULLETIN EM-51, or let us discuss your Limit Switch problems with you.

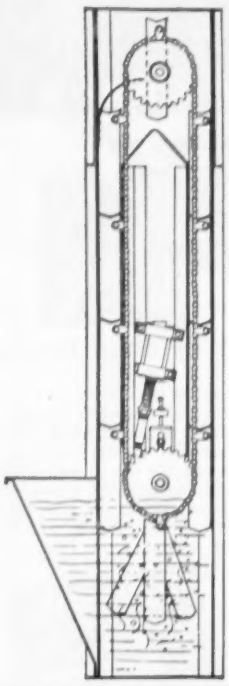
Electrical Manufacturing Division

National Acme

The National Acme Company • 182 E. 131 St., Cleveland 8, Ohio

For more details circle NED-680 E7 on enclosed inquiry slip

NEW AIR FILTER CLEANS ITSELF



"pulse-type" action keeps Automaze clean as new

Exclusive "pulse-type" action is the secret of the new Automaze air filter. While each panel in the revolving curtain is submerged in the cleaning tank at the bottom, it is agitated vigorously 6 or more times by a compressed air drive. This cleans each panel thoroughly as well as completely renewing the adhesive. Result: Automaze stays clean as new!

New Automaze goes 3 to 6 months without attention—a big improvement over stationary filters that may need cleaning once a month. Even after 6 months, all you need do is remove the sludge. A special reservoir cover makes this a quick, simple operation.

FREE BOOKLET: Send for free booklet for full details on the new Automaze. Write:

AIR-MAZE CORPORATION
25000 Miles Road
Cleveland 28, Ohio

For more details circle NED-681 E7 on enclosed inquiry slip

Rockwood DOUBLE-STRENGTH Foam Smothers 'Em All!

Gasoline • Fuel Oil
Jet Fuel • Crude Oils
and other
Petroleum Derivative Fires

Team DOUBLE-STRENGTH Foam with these two Rockwood fire killers

TYPE SG-60 NOZZLE. A true all-purpose nozzle that fights fire 5 ways. It discharges high velocity WaterFOG, low velocity WaterFOG (with applicator), FogFOAM, solid stream of water or solid stream of FOAM.

FOAM AND "WET" EDUCTOR WITH THE FW METERING-CHECK VALVE. Introduces Rockwood FOAM or "Wet" into hose lines, automatically proportioning correct amount of FOAM and "Wet" to water. Also usable wherever one liquid is fed into another on a fixed percentage basis.

ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . to Cut Fire Losses
Portable Fire Protection Division
1652 HARLOW STREET, WORCESTER 5, MASSACHUSETTS

For more details circle NED-682 E7 on enclosed inquiry slip

APCO TORQUE WRENCHES

. . . fast, accurate easy to handle!

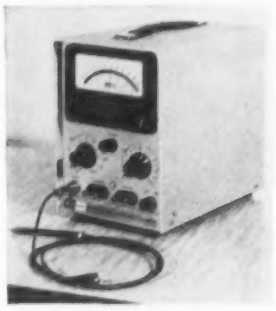
Two top-rated torquers that put precision tightening in the palm of your hand. New Apco Mossberg Micro-Set Torque Wrench features micrometer-type setting which eliminates dial watching . . . releases automatically at desired setting . . . resets itself after release. Available in a wide range of foot pound and inch pound sizes.

Handy Midget Micro-Set Wrenches measure from 6" to 10" overall . . . can be preset in any range of inch ounces and from 0 to 300 inch pounds. Available with box or open end, square or ratchet drive.

APCO MOSSBERG COMPANY
161 Lamb Street Attleboro, Massachusetts

For more details circle NED-683 E7 on enclosed inquiry slip

ELECTRIC TEST INSTRUMENT
has 15 voltage, 10 current ranges



Improved model 203 combination direct current microvoltmeter-microammeter-amplifier employs a chopper amplifier circuit for stability and accuracy. Fifteen voltage ranges cover from 100 mv to 1000 v full scale, and 10 current ranges are from 100 micro-microamperes to 100 milliamperes. Front panel output terminals allow use as a low-drift direct current amplifier with up to 80 db gain and very high input impedance. Cabinet and 19-in. rack-mount models are available. Made by **Kin Tel,** 5725 Kearny Villa Rd., San Diego 11, Calif.

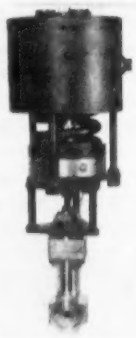
For more details circle NED-684 E7 on enclosed inquiry slip

GERMANIUM ALLOY TRANSISTOR
has 2.7-w output with 32.5-db gain

Well suited to mass production applications, the 2N301 and 2N301A (military) germanium alloy p-n-p type transistors are designed for audio output stages of mobile communications equipment. When used in Class A service, a single transistor can deliver maximum signal power output of about 2.7 w with power gain of 32.5 decibels. In Class B push-pull service, unit can deliver 12-w output with 30-decibel power gain. Total harmonic distortion at maximum output is less than 10 per cent. Made by **Radio Corp. of America,** Semiconductor Div., Somerville, N. J.

For more details circle NED-685 E7 on enclosed inquiry slip

VALVE ACTUATORS
for use under difficult conditions



All-metal actuators for control valves designed for both pneumatic and hydraulic control systems, are usable under difficult conditions involving atomic radiation, high temperatures and corrosion. Actuators are available with suitable valves as complete control units, or for addition to existing valve installations. Some are designed for "air to open" or "air to close" functions and are reversible in the field. Line is available with varying signal pressure ranges, thrusts and sizes. Made by **Robertshaw-Fulton Controls Co.,** Fulton Sylphon Div., Box 400, Knoxville 1, Tenn.

For more details circle NED-686 E7 on enclosed inquiry slip

ELIMINATE COSTLY MAINTENANCE!
ASSURE TOP PERFORMANCE!

SEALMASTER
BALL BEARING UNITS

A COMPLETE LINE FOR ALL YOUR REQUIREMENTS

WRITE TODAY FOR BULLETIN #454

BEARING DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS

For more details circle NED-687 E7 on enclosed inquiry slip

reduce
BENDING COSTS WITH PEDRICK MULTIPLE BENDING

If cost is a critical factor in your bending operations for pipe, tube or structural metal—we've got news for you!

Multiple bending on Pedrick machines will *cut those costs to the bone!* Let us show you.

Write PEDRICK TOOL AND MACHINE CO., 3640 N. Lawrence St., Philadelphia 40, Pa. Dept. 6.

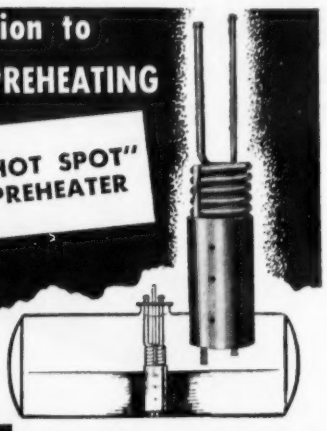
FREE "PEDRICK LINE" BULLETIN. WRITE TODAY.

PEDRICK production benders

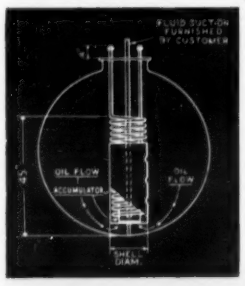
For more details circle NED-688 E7 on enclosed inquiry slip

The solution to BULK TANK PREHEATING

REMPE "HOT SPOT" PREHEATER



Heats with either steam or hot water



Heats liquids in bulk storage to proper flow temperature, before they enter the suction pipe.

Special design "flow accumulator" causes liquids to pass over heated coils. Does the job efficiently and at low cost.

Construction — All-steel shell and coil assembly. Connections furnished for any diameter tank.

WRITE FOR BULLETIN

Complete facilities for fabrication of pipe coils — all types — all materials. Engineering service. Send details for price.

HEAT TRANSFER EQUIPMENT REMPE CO. Founded 1890

REMPE COMPANY
338 N. Sacramento Blvd., Chicago 12, Ill.

For more details circle NED-689 E7 on enclosed inquiry slip

control temperature to .05°c WITH **PRINCO THERMOSTATS**

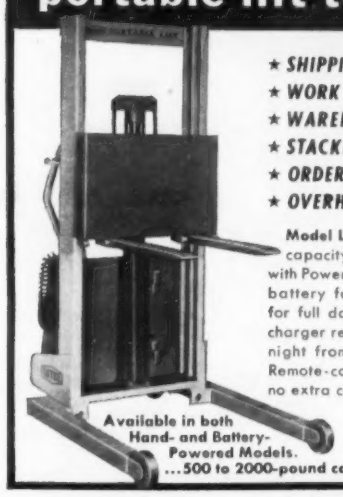
Precise PRINCO Thermostats are ideally suited for use where close temperature control is critical. They are built to customer specifications and can be ordered for any setting from -38°C to 300°C in straight, angle or armored form and in sizes suitable for the specific application. They withstand vibration and acceleration effects in accordance with government standards—are widely used in electronic, naval, air-borne, x-ray, laboratory and general industrial applications.

• WRITE, WIRE OR CALL FOR COMPLETE DETAILS

PRECISION THERMOMETER & INSTRUMENT CO.
1434 Brandywine Street • Dept. IA • Phila. 30, Pa. • RI 6-6671

For more details circle NED-690 E7 on enclosed inquiry slip

Whatever the need... there's an OSTER portable lift to fill it!



★ SHIPPING AND RECEIVING
★ WORK IN PROCESS
★ WAREHOUSING
★ STACKING
★ ORDER-FILLING
★ OVERHEAD MAINTENANCE

Model L-2056-P 2000-pound-capacity Oster Portable Lift with Power Unit. Standard 12-volt battery furnishes lifting power for full day's operation; built-in charger recharges battery overnight from any 110-volt outlet. Remote-control unit included at no extra cost. Lift range: to 56".

Available in both Hand- and Battery-Powered Models. ...500 to 2000-pound capacities.

FREE BOOKLET! This 10-page booklet contains complete information and specifications on the entire line of Oster Portable Hydraulic Lifts. Send for your copy *today*.

THE OSTER MANUFACTURING COMPANY
1311 East 289th Street, Wickliffe (Cleveland), Ohio

For more details circle NED-691 E7 on enclosed inquiry slip

SPEED REDUCER provides 29:1 reduction

Model G4S worm gear speed reducer provides 29:1 reduction, is rated 875 lb-ft output torque and is designed for intermittent operation. Anti-friction ball bearings are incorporated in both input and output shafts. The 36-lb unit has a cast-aluminum housing and can be driven manually, by electric, gasoline or hydraulic motor, or by single speed power take-off if truck mounted. It can be furnished with a niggerhead if desired. Made by **Tulsa Winch Co.**, 815 E. First St., Tulsa, Okla.

For more details circle NED-694 E7 on enclosed inquiry slip

FLEXIBLE TOOL SHAFT attaches on up to ½-hp motor

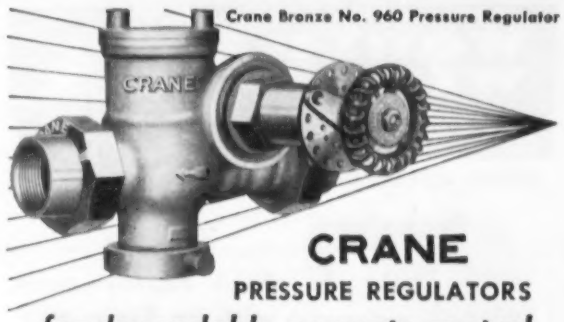
Model 40 flexible tool shaft, consisting of a ⅜-in. diameter music wire core that rotates inside a rubber-covered casing, is a portable production tool for drilling, grinding, sanding, buffing and other finishing uses. It is furnished with ball-bearing motor connection and ball-bearing handpiece with removable wheel arbor having ½-20-in. thread. An RM-40 1:1 ratio angle head can be used in place of hand piece as shown. Shaft can be connected to any motor. It will transmit up to ½-hp at speeds up to 6900 rpm. Made by **Stow Mfg. Co.**, 26 Shear St., Binghamton, N. Y.

For more details circle NED-695 E7 on enclosed inquiry slip

HEX KEYS & CHAIN either end of key can be used

Set of socket set screw keys can be kept together with the Hexkees ring-chain which permits instant use of either end of any key without removal. Each key is fastened to its chain by a sliding ring that allows keys to be rotated. Standard assortment includes nine keys ranging in size from 0.050 to ¼-in. Price is $1.45 per set. Made by **Hard Inc.**, 3514 Pontiac Rd., Ann Arbor, Mich.

For more details circle NED-696 E7 on enclosed inquiry slip



CRANE PRESSURE REGULATORS
for dependable accurate control of steam and air pressure

These regulators are particularly suitable for use in modern process work, on vulcanizers, cookers, dryers, paper machines, heating systems, air blasts and many other services.

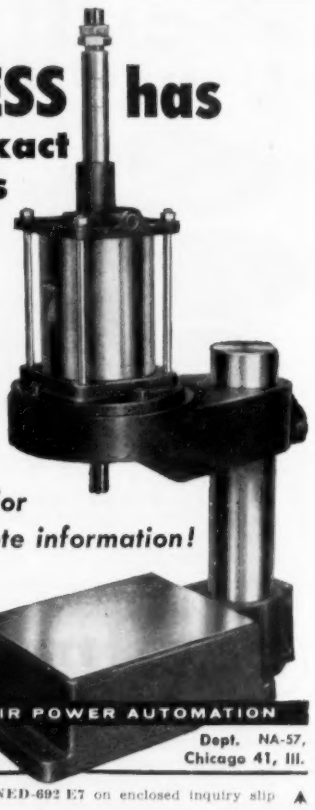
Outlet pressures not affected by inlet fluctuations. No pressure build-up.

Sizes ½ to 2 inches. For maximum inlet pressures of 250 lb. air or 250 lb. steam up to 450°. See your local Crane Representative or write for literature.

CRANE VALVES & FITTINGS
PIPE · KITCHENS · PLUMBING · HEATING
Since 1855—Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers Serving All Areas

For more details circle NED-697 E7 on enclosed inquiry slip

This **AIR PRESS has positive, exact depth stops**



Many job changes can be made by quick, simple stop nuts, without touching column adjustment. Rigid, solid steel column, and heavy surface-ground base.

One of nine sizes and models in the great dependable Mead Air Press line.

THE MEAD MAN CAN HELP YOU CUT COSTS Now!

Write for complete information!

MEAD SPECIALTIES COMPANY

PATHFINDER IN AIR POWER AUTOMATION

4114 N. Knox Ave. Dept. NA-57, Chicago 41, Ill.

For more details circle NED-692 E7 on enclosed inquiry slip

Take an ordinary portable drill

...add a

Supreme **Push-Pull Tapper**

WINNER Mill & Factory's Feature Product Award . . . October 1956

Tap in all materials—fast, safely, accurately—with *minimum* breakage

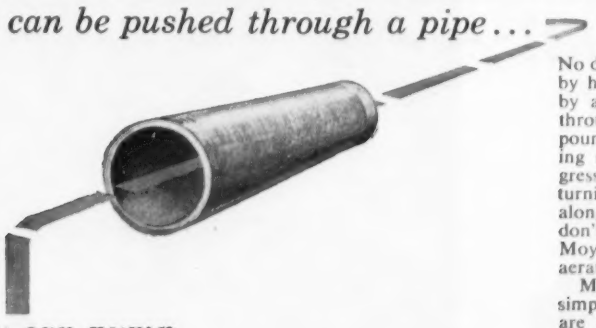
The Supreme PUSH-PULL TAPPER is an instant-reversing speed reduction unit made expressly for tapping. The prize-winning Push-Pull attaches easily to either the spindle or chuck of any drill. Speed reduction of 7:1 gives adequate power to tap in all materials... instant-reversing means that tap direction can be reversed without stopping drill. Tap can be moved into and out of the hole at will.

With the Push-Pull tap breakage is minimum. Finger-tip control gives operator a better "feel" for break-causing strains. Complete PUSH-PULL TAPPER Kit, No. 9000, costs just $29.95; includes everything but taps. Write for literature.

Supreme **Push-Pull Tapper**
by the makers of SUPREME BRAND CHUCKS
SUPREME PRODUCTS CORP., 2222 S. CALUMET, CHICAGO 16

For more details circle NED-698 E7 on enclosed inquiry slip

if it can be pushed through a pipe . . .



you can pump it with a

MOYNO®

No doubt, in your plant, certain materials are being moved by hand expensively that could be pumped economically by a Moyno. They pump anything that can be forced through a pipe . . . from very thin liquids to heavy, non-pourable abrasive substances . . . even materials containing suspended particles! As the illustration shows, progressing cavities, formed by the helical screw-like rotor turning inside the double-helical stator, move smoothly along, carrying the material with them . . . the cavities don't squeeze the substance . . . can't stick or gum up. Moyno pumps will not cause churning, foaming . . . won't aerate or vapor-lock!

Moynos are adaptable for a wide range of substances simply by modifying the materials the pumping elements are made of. They are available to pull up to 29" of vacuum while discharging under pressure. If you have a pumping problem, chances are a Moyno will solve it!

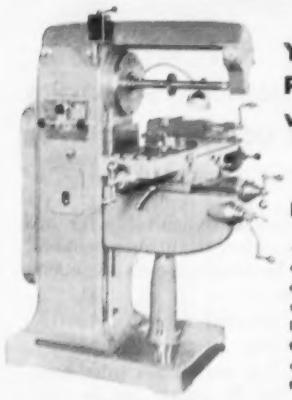
Look in the yellow pages for the name of your nearest R & M Moyno Pump representative, or write today, for Bulletin 30-NE.

Industrial type Moyno . . . available to 500 gpm, pressures to 1000 psi

ROBBINS & MYERS, INC.
SPRINGFIELD, OHIO / BRANTFORD, ONTARIO

For more details circle NED-693 E7 on enclosed inquiry slip

WORLD WIDE Acceptance INDEX
YOUR ASSURANCE OF TOP VALUE!



You Get Peak Performance with an INDEX Model "60" HORIZONTAL MILL

• Simple, efficient, compact, with all operating parts enclosed, yet readily accessible. Unusually low-priced. Designed for the average tool room, yet highly suitable for production shops through its rigidity and low maintenance cost. Standard table 40" x 9", larger table optional.

The INDEX LINE also includes the Famous "SUPER 55" and the Popular "45" Vertical Mills

Write for Literature

INDEX MACHINE Co.
539 N. MECHANIC STREET JACKSON, MICHIGAN

For more details circle NED-699 E7 on enclosed inquiry slip

ELCO SCREWS

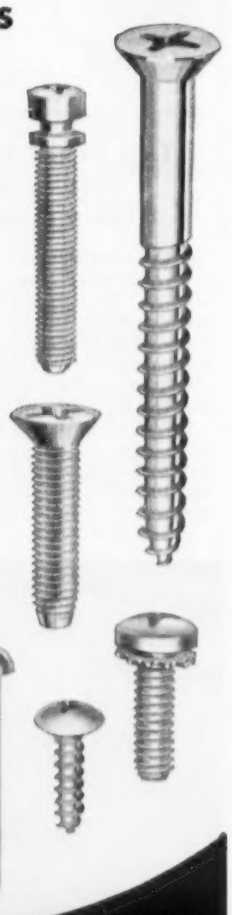
Elco Screws are Good Screws

... Ask a man who has used them

REMEMBER ELCO

PHILLIPS SCREWS

ELCO is one of the prominent sources for all types of "Phillips" Recessed-Head Screws. At ELCO particular care is taken to maintain the standardized specifications of the distinctive Phillips recess — for best performance and lowest handling cost on *your* assembly line. Many ELCO-PHILLIPS Screws are stocked for immediate delivery. *Write for our stock list.*



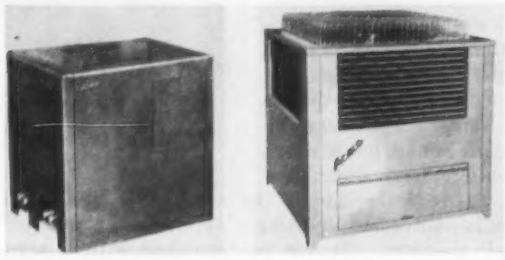
WOOD SCREWS
MACHINE SCREWS
MACHINE SCREW NUTS
TAPPING SCREWS
THREAD-CUTTING SCREWS
PHILLIPS AND SEMS SCREWS
PIPE PLUGS
STOVE BOLTS
CAP SCREWS
LAG SCREWS
DRIVE SCREWS
SPECIAL SCREWS
COLD HEADED PRODUCTS

ELCO TOOL AND SCREW CORPORATION
1946 BROADWAY • ROCKFORD, ILLINOIS

For more details circle NED-700 E7 on enclosed inquiry slip

PACKAGED WATER CHILLERS
1¾ through 5 hp capacities

Two series of compact, easy-to-install packaged water chillers with capacities from 1¾ through 5 hp are suitable for either air conditioning or industrial liquid

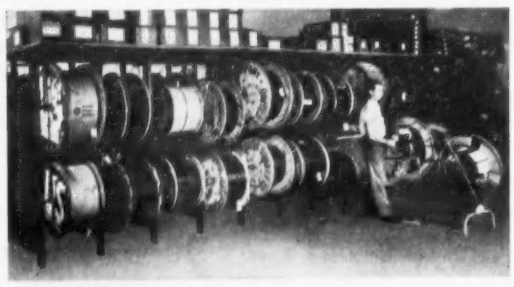


cooling. Nonferrous rust-free liquid circuits allow direct chilling of water, glycols, light oils, solvents, cleaning fluids and other processing fluids. Both water and air cooled series have high-low pressure cut-out, freeze-up protection, and water temperature controls. Each has hermatic refrigeration systems. Multi-unit installations are possible where more than 5-ton capacity is required. Units can be connected in parallel or in series, and can be installed side-by-side, or stacked vertically. Made by **Acme Industries, Inc.,** 450 Mechanic St., Jackson, Mich.

For more details circle NED-701 E7 on enclosed inquiry slip

WIRE REEL RACKS
hold from 4 to 100 reels to afford savings in wire handling

Considerable saving in floor space, rapid wire handling and cutting and positive wire inventory control result from use of this wire reel rack. Quickly in-



stalled, rack has brackets adjustable up or down for from 48-in. reels of 500 MCM wire to 12-in. spools of No. 14 wire. Sizes for four to 100 reels are available, as are five different width compartments for different make reels.

Four models include a wall hanging unit, two floor models which can be set up anywhere, but load respectively from either one side or both sides, and an undertable model to fit present warehouse set-ups. Top of undertable rack can be converted to storage or bench space. Racks permit wire cuts of 100 to 150 ft in length in 3-4 minutes when used with Kart-O-Matic equipment. Made by **Weber Electric Mfg. Co.,** 15224 Kercheval Ave., Detroit 30, Mich.

For more details circle NED-702 E7 on enclosed inquiry slip

Need a box for small parts?

TOTELINE of MOLDED FIBER GLASS

#472 with molded-in handles #500 stacking box

Here are just two—specially designed for handling small parts—of the large line of Toteline fiberglass stacking boxes. All Toteline boxes and trays offer these advantages:

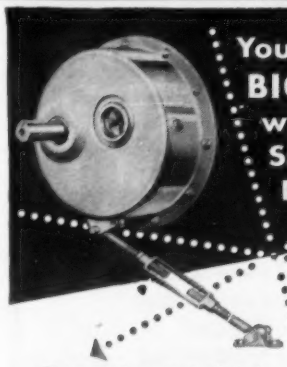
- Light but strong
- Easy to clean
- Chemical resistant
- No maintenance
- No sharp edges, corners
- Constant tare
- Wire reinforced edges
- Available in colors

Write for catalogs or describe your specific handling problem.

MOLDED FIBER GLASS TRAY CO.
LINESVILLE, PA. Offices in principal cities and Canada
World's largest producer of reinforced plastic trays and toteboxes

For more details circle NED-703 E7 on enclosed inquiry slip

You can make BIG SAVINGS with Falk All-Steel Shaft Mounted Drives



SIX SIZES
▶ ½ to 30 hp
▶ Single or double reduction
▶ Wide output speed range—420 to 10 rpm

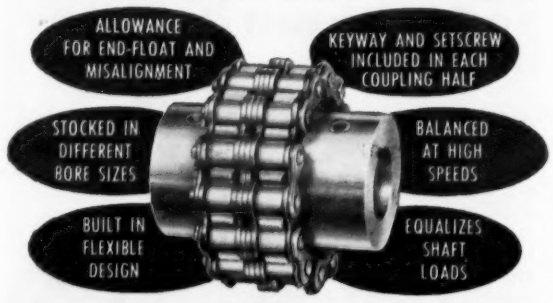
•The rugged, compact, all-steel Falk Shaft Mounted Drive is the ideal answer to countless application problems requiring dependable speed reduction in limited space. It mounts in any position directly on the driven shaft. Its precision helical gearing gives highest mechanical efficiency. No adjustable motor bases or slide rails are needed. Exclusive advanced design permits inspection of gears without dismantling unit from driven shaft or disturbing revolving elements. This versatile, economical reducing unit saves space, power, material and time —its applications are virtually unlimited.

SEND FOR FREE BULLETIN!
Let us send you our illustrated Bulletin 7101, it describes the structural and practical advantages of this all-steel Shaft Mounted Drive—and contains selection tables, application photographs and a wealth of helpful information. Write The Falk Corporation, 3043 W. Canal St., Milwaukee 8, Wisconsin.

FALK
...a good name in industry

For more details circle NED-704 E7 on enclosed inquiry slip

only cullman FLEXIBLE COUPLINGS offer you these many advantages

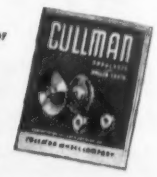


Just three parts are needed — two hardened steel sprockets and a length of Cullman double strand roller chain.

For top performance, economy and long service life specify Cullman Roller Chain Flexible Couplings.

"Off-the-shelf" service on fractional to 500 horsepower ratings.

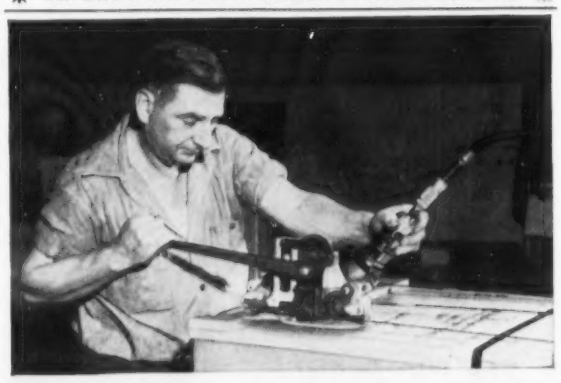
For full information see your Cullman distributor or write for Catalog #51 TODAY.



cullman
POWER TRANSMISSION
ROLLER CHAINS AND SPROCKETS
25400

REPRESENTATIVES AND DISTRIBUTORS IN ALL PRINCIPAL CITIES
CULLMAN WHEEL COMPANY, 1333 ALTGELD ST., CHICAGO 14, ILLINOIS

For more details circle NED-705 E7 on enclosed inquiry slip



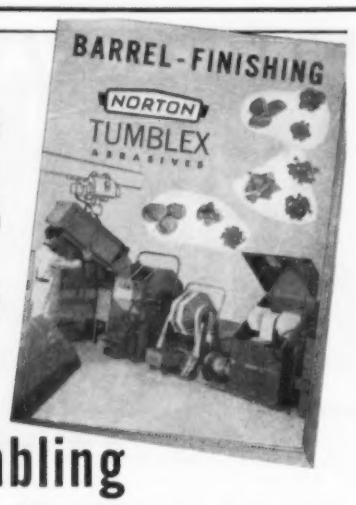
Speed strapping with Signode's air-powered strapping machine

Signode's Model AP is the only air-powered strapping machine that tensions, seals and cuts steel strapping. Pulls pre-set tension every time—up to 1600 lb. Use it on compressible and non-compressible bundles, cartons, boxes, skids and crates. With air power to do the hard work, strapping is faster and costs less. Model AP is portable, weighs only 21 lb. Automatic seal feed magazine holds 75 seals. Use of suspension hooks and overhead strap dispensers permits air-powered strapping even in crowded areas. For complete details, write:

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
Offices coast to coast.
Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

For more details circle NED-706 E7 on enclosed inquiry slip

FREE 76-Page Book on Tumbling



Tells you how 4 different TUMBLEX* abrasives assure best results. Describes all TUMBLEX types and sizes, details on barrel-finishing advantages and equipment, advice to operators and facts on Norton sample processing service. Write for copy to NORTON COMPANY, Worcester 6, Massachusetts. G-322

NORTON ABRASIVES — *Making better products... to make your products better*

NORTON PRODUCTS: Abrasives • Grinding Wheels • Grinding Machines • Refractories
BEHR-MANNING PRODUCTS: Coated Abrasives • Sharpening Stones • Behr-cat Tapes
*Trade-Mark Reg. U. S. Pat. Off. and Foreign Countries

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Salt Bath Heat Treating Cuts Production Costs 7 Ways

1. Practically no distortion. Grinding can be done *before* hardening.
2. More uniform heating throughout. Better, more consistent results.
3. Complete surface protection of parts. No scale—no decarb.
4. Faster heating cycles. You get more work done in less time.
5. Far less floor space needed.
6. Lowest equipment cost.
7. No skilled labor.

Write for Case History Bulletins on
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☐ Annealing ☐ Hardening
☐ Brazing ☐ Cleaning, Descaling
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AJAX ELECTRIC COMPANY
103 Allen Street
Philadelphia 23, Pa.

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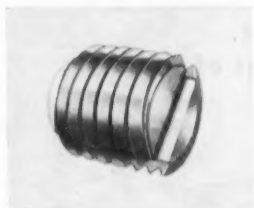
AIR COMPRESSOR delivers 78 cfm at 100 psi

Offered as a stationary model for mounting on skids or truck bed, or as a portable model with disk wheels, pneumatic tires and fenders, the JW-78 diesel engine driven air compressor delivers 78 cfm at 100 psi. Two or more of the self-contained units can be connected in series or parallel to attain capacities up to 312 cfm. Unit has single compressor and power cylinders, roller type main bearings, water-cooled compressor valve, and common lubrication system. Made by **Cerlist Diesel, Inc.**, JW Div., Dept. 430, Burlington, N. C.

▲ For more details circle NED-710 E7 on enclosed inquiry slip ▲

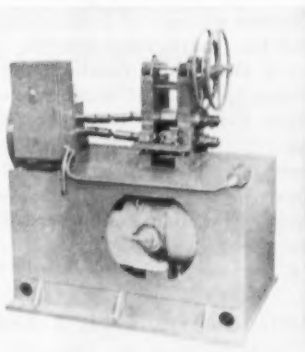
CONTACT SCREW offers optimum heat transfer



Fine silver or silver alloy core that is silver braze-bonded to a threaded high strength metal alloy shell comprises this contact screw. Precious metal core is continuously bonded to the threaded shell and provides optimum heat transfer path for dissipating heat developed by contact arcing. Screws are available in all sizes on special order only. Made by **George Ulanet Co.**, 413-9 Market St., Newark 5, N. J.

▲ For more details circle NED-711 E7 on enclosed inquiry slip ▲

WIRE ROLLING MILL produces special wire sections



Nonferrous wire can be rolled into special sections at speeds up to 750 fpm with a maximum separating force of 40,000 to 60,000 lb by the model 042 wire rolling mill. The two-high pinion geared drive mill has a 4-in. diameter, 3-in. face width roll and is equipped with a Varispeed motor and accessory edger. Oversize bed contains motor, oil sump and coolant tank. Various accessories are offered. Made by **Fenn Mfg. Co.**, 99 Fenn Rd., Newington, Conn.

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READ any surface temperature with Alnor® PYROCON

Equipment...material...metallic or non-metallic...flat, curved... revolving or stationary—you can read every surface temperature accurately in less than 3 seconds!

Compact, complete in precision design, this rugged instrument assures highest standards of speed, accuracy and dependability.

Alnor Portable Pyrocons come in scale ranges to 2000° F., with thermocouples for every application. You'll find full details on the Pyrocon exactly suited to your operations in Bulletin 4257. Send for your copy now. Write: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Alnor — PRECISION INSTRUMENTS FOR EVERY INDUSTRY

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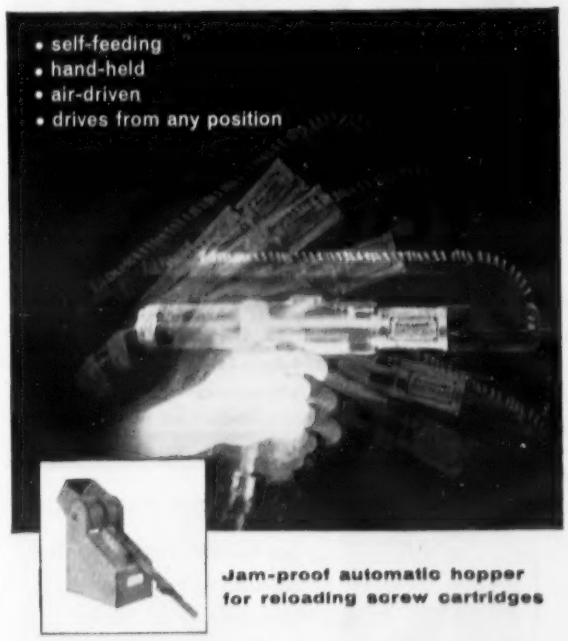
new! SHAKEPROOF SEMSPAK® automatic screw driver



Jam-proof automatic hopper for reloading screw cartridges

Completely self-contained, Semspak Power Driver feeds screws automatically, drives screws automatically as fast as you can pull the trigger . . . from any angle! Only eighteen inches long and weighing just six and one half pounds, Semspak Power Driver is completely portable. Screw "shooting" is prevented as screw cannot be removed from jaw until driven into work piece.

Semspak drives machine screws, wood screws, sheet metal screws, thread-cutting screws and Sems (screw and washer assembly) in lengths from 7/16" to 1½". It accommodates the following head styles: round, pan, oval, flat, fillister and hexagon heads, slotted or Phillips. Torque is simple to adjust and bits are easy to change. Air-powered through a single light-weight hose, Semspak Power Driver will not mar work surfaces. The Semspak Power Driver visible-load cartridge holds up to sixty #8 and fifty #10 screws and is automatically reloaded from the hopper.

For complete information, write for Shakeproof Semspak Power Driver catalog today

SHAKEPROOF "Fastening Headquarters" ®
DIVISION OF ILLINOIS TOOL WORKS
2501 N. Keeler Ave., Chicago 39, Ill.
Offices in Principal Cities
Canada Illinois Tools Limited, Toronto, Ontario

▲ For more details circle NED-714 E7 on enclosed inquiry slip ▲

HERE'S THE *COMPLETELY-NEW* CLARKLIFT 40 . . .

the most practical 4,000 lb. capacity truck available!

Only a features booklet can begin to list the many practical design innovations of this fork truck. Why not use the coupon below to get your personal copy. You'll see how the wheelbase was made longer, while the turning radius became shorter. You'll see how the *Clarklift's* air-scoops and seven internal filters, the swing-back hood and the self-adjusting brakes cut maintenance costs to the bone. You'll see how lifting speeds were increased 50%, a new upright was developed, the advantages of larger-sized steer tires. You'll see this and much more, in full color, by using either the coupon below or the reader service card. Find out today how different the all-new *Clarklift* really is.

Clarklift is a trademark of Clark Equipment Company

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Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 21, Michigan

With no obligation send me your free full-color Clarklift booklet
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Company _____
Address _____
City _____ Zone ____ State _____

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easy handling

Hand Trucks

Speed short-distance hauling of heavy loads with Yale Hand Trucks. Easy to handle, these Yale Trucks minimize pulling effort. Their compact design provides maximum maneuverability in narrow aisles, crammed storage areas. Smooth lifting and lowering action protects fragile loads.

Yale Hand Trucks are available in capacities from 1,000 to 12,000 lbs. with mechanical or hydraulic lift. Write The Yale & Towne Mfg. Co., Philadelphia 15, Pa., Dept. A-375.

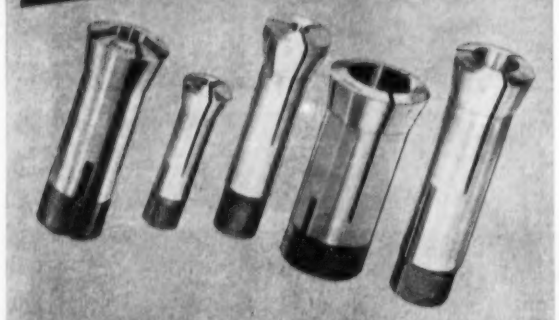
YALE* INDUSTRIAL LIFT TRUCKS AND HOISTS

*REG. U. S. PAT. OFF.

For more details circle NED-715 E7 on enclosed inquiry slip

HARDINGE ELMIRA, N.Y.

COLLETS for LATHES and MILLERS



ACCURACY — DURABILITY — LOW COST

HARDINGE collets are the finest you can use . . . yet cost no more than ordinary collets. They are fully hardened and ground both internally and externally . . . have heat treated threads . . . and deliver maximum production efficiency over a longer period.

Specify HARDINGE next time you order collets. Prompt stock delivery from many convenient locations.

Write for Bulletin 56 — Complete collet ordering information for all Lathes, Millers, Grinders and Fixtures

HARDINGE BROTHERS, INC., ELMIRA, N. Y.

For more details circle NED-716 E7 on enclosed inquiry slip

for faster, safer, easier, liquids loading and unloading of tank trucks and tank cars.

OPW

LOADING ASSEMBLIES

OPW Loading Assemblies have long been known for their really effortless flexible loading, practical compactness, maneuverability and long service life.

CATALOG F-32 provides a detailed study of OPW's Spring-Balanced and Counter-Balanced styles, in addition to engineering data, components, and a wide range of applications. Free on request.

JORDAN CORPORATION
INDUSTRIAL SALES DIVISION OF OPW CORPORATION
6013 WIEHE ROAD CINCINNATI 13, OHIO ELmhurst 1-1352

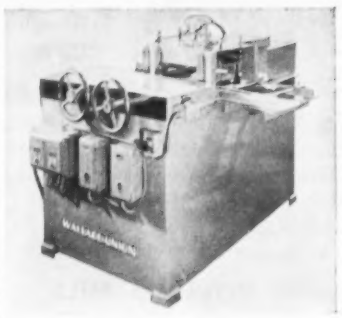
For more details circle NED-717 E7 on enclosed inquiry slip

AUTOMATED HOPPER FEEDER for sliding, rolling or headed parts

Moving cleated steel belt conveyor of the model 2000 elevating hopper feeder picks up sliding, rolling or headed parts from a storage hopper. They are elevated to an adjustable roll orienting mechanism for automatic feeding into production machines at predetermined and variable speeds. Electrically controlled, self - contained unit has a 6 cu ft storage hopper with 36-in. loading height. Rolling parts up to 2⅜ in. diameter and ⅛-in. long and sliding and headed parts with 3/16 to 1¼-in. diameters and 3½-in. length can be accommodated. Made by **Production Feeder Corp.**, 3130 Johnnycake Ridge Rd., Mentor, O.

For more details circle NED-718 E7 on enclosed inquiry slip

FINGER JOINT CUTTER rapidly joins lengths of wood



Any wood assembly operation method, including high production line finger jointing, can be carried out on the Wallace - Union Automatcher, a machine for making precision finger joints. When used with the Union automatic finger-joint bonding line and high frequency press, the machine produces continuous ribbons of infinite length or turns scrap lumber into marketable lengths. Stock is gripped firmly in a stationary position and the two ends of two separate pieces of wood are machined simultaneously. Trim saw blades can be set for tight or loose joints as required. Machine handles long or short stock, cuts out defects, matches end cuts automatically and feeds from left or right, mechanically or by hand. Made by **Union Tool Corp.**, 318 N. Market St., Warsaw, Ind.

For more details circle NED-719 E7 on enclosed inquiry slip

Mills, Cutters, Drills & Reamers

Fastcut Tool Co.—36-page pocket-size catalog on Fastcut tools gives descriptions, specifications and lists prices. Line includes end mills, Woodruff keyseat cutters, combined drills and countersinks, and center reamers. Catalog is complied for quick reference.

For more details circle NED-720 E7 on enclosed inquiry slip

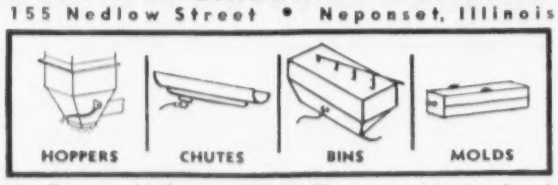
VIBROLATOR®

the strong silent type VIBRATOR

FOR MOVEMENT OF WET OR DRY MATERIAL

Only one moving part does the job — a rolling ball driven by compressed air or steam. Needs no oil or filters. The VIBROLATOR moves materials down chutes, out of bins and hoppers, actuates screens, brings up entrained air in wet plaster, concrete and granulars. Priced from $9 to $88 in malleable iron, (nonferrous in some sizes), from "pocket-watch" size to the 10 lb. DV-51. Write for complete catalog today.

MARTIN ENGINEERING COMPANY
155 Nedlow Street • Neponset, Illinois



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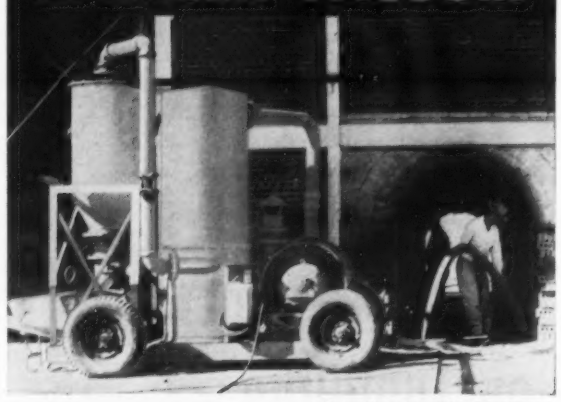
SPENCER VACUUM



ACME BRICK CO., BENNETT, TEXAS

Handles King-Size Cleaning Task

Removing hot brick chips and sand is the job handled by this rugged SPENCER portable vacuum cleaner.

It's typical of the tough assignments regularly entrusted to sturdy SPENCER vacuum cleaners when continuous, reliable performance is a *must*.

Whatever *your* requirements in portable vacuum cleaners from ⅞ HP through 20 HP or pneumatic conveying systems from 2 HP through 100 HP and capacities to 10 Tons per hour, it will pay you to contact SPENCER.

SPENCER

The SPENCER TURBINE CO.
HARTFORD 6, CONNECTICUT

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Easier food handling with Hackney Seamless Containers

More and more modern food processing plants use durable Hackney containers to cut handling costs. Here's why:

- ★ **Easy to clean**—with seamless construction.
- ★ **Easy to handle**—with stout welded handles.
- ★ **Easy to move**—with tough wearing ring on bottom.
- ★ **Easy to pour**—with a full-curled lip.
- ★ **Easy to select**—with a wide range of sizes in black, galvanized, tinned or stainless steel, or aluminum. Write for catalog.

Hackney

Pressed Steel Tank Company
Manufacturer of Hackney Products
1450 S. 66th St., Milwaukee 14, Wis.
Branch offices in principal cities

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

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ALL-PURPOSE JONES HAND TACHOMETERS

for quick, easy, instantaneous readings over full 360 degrees of the dial

The Jones portable hand tachometer has many uses in industry. They are light, easy to carry and require no electrical connections. The scale readings are over the full 360° of the dial and are uniformly spaced for easy reading at a glance.

Does not require any special skill — Easy to use even by an unskilled person, the Jones portable hand tachometer features a range selector which is a small knurled knob plainly marked for easy and rapid range change.

Handy, accurate instrument for ready use and trouble shooting—Operators, trouble shooters and inspectors find the Jones portable hand tachometer a great assist as they do their work in automotive service stations, power plants, electric generating stations, oil refineries and many other places where a handy, accurate instrument is desirable. **Write for Bulletin 146-1 or demonstration to:**

JONES MOTROLA CORPORATION
STAMFORD, CONNECTICUT

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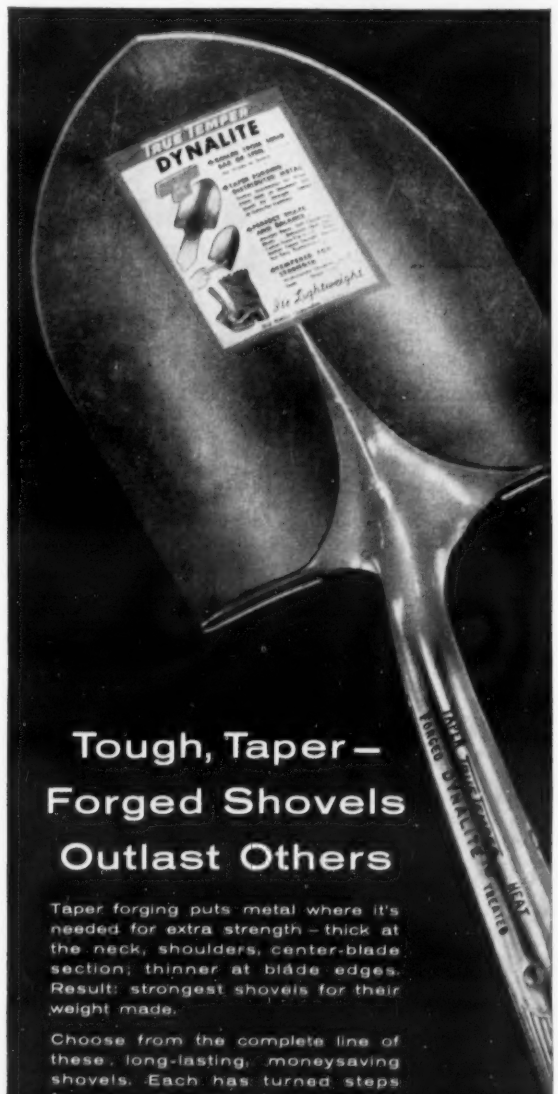

Tough, Taper–Forged Shovels Outlast Others

Taper forging puts metal where it's needed for extra strength – thick at the neck, shoulders, center-blade section; thinner at blade edges. Result: strongest shovels for their weight made.

Choose from the complete line of these long-lasting, moneysaving shovels. Each has turned steps for easier shoveling, fire-hardened, splinter-free handles.

Choose from four taper-forged models – DYNALITE, BANTAM, FOX, BULLDOG. Look for the taper-forged story on the label. True Temper, Dept. NED-5, 1623 Euclid Avenue, Cleveland 15, Ohio.

Send for FREE "TOOLS FOR INDUSTRY" catalog now. Lists all True Temper striking tools, shovels and heavy steel goods. No obligation.

TRUE TEMPER

YOU CAN LOOK TO TT FOR LEADERSHIP

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SOFT-BLANK CHUCK JAWS

available in American standard sizes

Precision machined soft-blank top jaws for any American standard chuck can be obtained at a price substantially less than it would cost the individual plant to produce them for itself. These Du Page All American top jaws are made from low carbon steel in medium and heavy duty sizes for self-centering, universal scroll, and independent and scroll combination chucks. Both standard height and extra high jaws are made. Keyways are precision machined and jaws are drilled and counterbored for standard socket-head screws. Made by **DuPage Machine Co.**, Box 204 N, Elmhurst, Ill.

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PLATFORM TRUCKS

3000, 7000 and 24,000-lb capacities

Free-floating roller and ball-bearing wheels on Lo-Hite express roller platform trucks afford loading ranges of 3000, 7000 and 24,000 lb. Ball-bearings allow friction-free turning at high speeds, and under heavy loads. Truck is made in overall heights of 9¾ and 11¾ in. Checkered steel or hardwood platforms enclosed in steel frames are optional. Units are supplied with two or four-wheel steering in deck sizes to fit all needs. Made by **Hilman Equipment Co.**, Dept 5-B, Box 81, Sea Girt, N. J.

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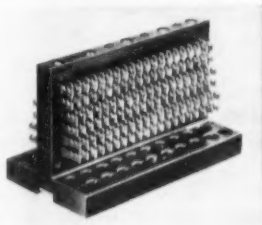
PHENOLIC TERMINAL BLOCKS

can have up to 120 terminals



Base of the PJ-106 terminal block and individual terminal separators are molded in one piece of black phenolic plastic. Blocks are designed to permit the stacking up of six or more rows. Unit shown provides 120 plated brass terminals—six rows with 20 terminals per row. Rows are graduated in length for easy wiring and are identified by numbering along top row. Block with more than six rows per block are available on special order. Base measures 3x 6 1/16 in. Made by **Audio Development Co.**, 2847 Thirteenth Ave. S., Minneapolis, Minn.

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Cut Blueprinting Costs 50% or More

Make exact-copy whiteprints as fast as you need them—save time, work and money. With the modern P&H SPEEDMASTER, anyone can economically print and develop exact, same-size black-line and colored-line whiteprints of charts, reports, letters, drawings, or any translucent original whether written, typed, printed or photographed. SPEEDMASTER handles cut sheets or roll stock up to 44" wide in any length. Electronic drive provides instant speed changes with full stop and reverse control. Ruggedly built of jig-drilled aluminum castings.

Continuous high-volume production whiteprinters in sizes and speeds to fit every need, from **$1195** up.
Also Spee-Dee whiteprinters from **$79.50** up.

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5638 N. WESTERN AVE., CHICAGO 45
Progressing with the Reproduction Industry Since 1937
MFRS. OF WHITEPRINT, BLUEPRINT & PHOTOCOPY EQUIPMENT

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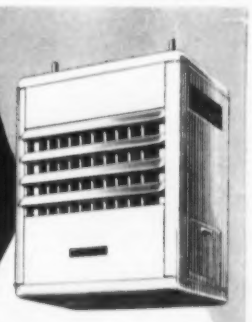
Here's how Reznor Gas Unit Heaters help you cut plant heating costs



- Lower equipment cost
- Much lower installation costs
- Lower fuel costs
- No operating labor required
- No maintenance problems
- Waste no valuable work space

Write today for the complete story including detailed catalog

REZNOR THE WORLD'S LARGEST-SELLING GAS UNIT **HEATERS**

Reznor Manufacturing Co., 41 Union Street, Mercer, Pa.

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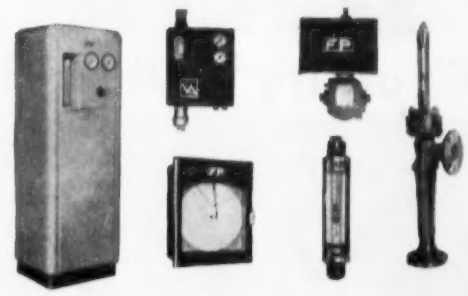
for your convenience . . .

OFF-THE-SHELF DELIVERY OF PROCESS CONTROL INSTRUMENTS



To save you time on the delivery of vital process control instruments—Fischer & Porter offers an ***extensive immediate delivery policy*** on a wide variety of flowmeters, transmitters, indicators, recorders, controllers, and chlorinators. In 1956 alone, 18,000 customers took advantage of this unique, carefully planned, standardization program to get Fischer & Porter quality *and* fast delivery too!

• Write today for Catalog 2, covering complete prices and specifications on these standardized control instruments. Address request to Fischer & Porter Company, 3557 County Line Road, Hatboro, Pa.

FP FISCHER & PORTER COMPANY
Complete Process Instrumentation

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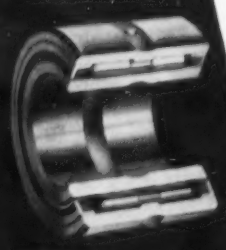
McGILL®

greater capacity



plus positive protection!

sealed **GUIDEROL®** **NEEDLE BEARINGS**

An effective combination of full complement capacity, guided rollers and effective sealing is provided inexpensively with the SG series of sealed GUIDEROL bearings. Lip-seals are built into standard GUIDEROL bearings without increasing bearing width — interchangeable with ordinary needle bearings.

To seal lubricant in or keep dirt out, you will find the answer in one of five seal combinations possible with GUIDEROL SG series bearings.

Write for helpful bearing Handbook No. H-54-B

McGILL® *precision needle bearings*

McGILL MANUFACTURING CO., INC.
101 N. LAFAYETTE ST. VALPARAISO, INDIANA

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Installation of a 5-ton Cleveland Tramrail crane enabled a company to save on a bundling charge made for smaller bundles of rods, bars and angles it uses. This savings is $2.00 per ton. As 200 tons are used monthly, this amounts to $400 per month. Another saving of 2 man-hours per car is also made because of faster, more efficient unloading.

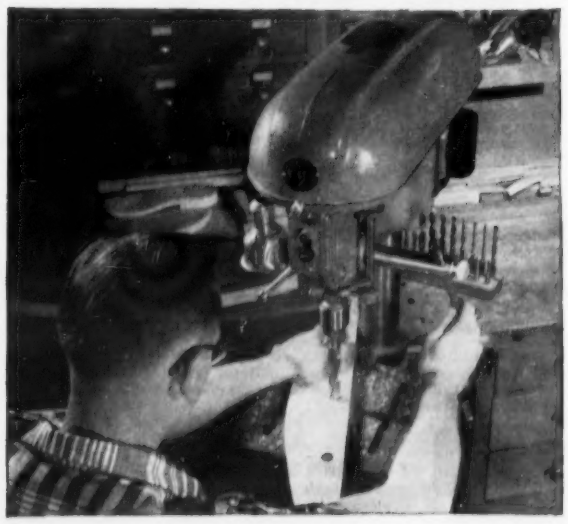
GET THIS BOOK!
BOOK No. 2008
Packed with valuable information...

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6651 East 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

▲ For more details circle NED-734 E7 on enclosed inquiry slip ▲

NEW!
ROCKWELL-BUILT
DELTA
14" utility drill press



Especially designed for small wood and metalworking shops—versatile—rugged—accurate—and priced amazingly low! It's designed to cut your costs—here's why:

DOES MORE WORK FASTER—Six interchangeable spindles enable you to quickly and easily convert for shaping, routing, mortising, grinding, reaming and countless other jobs. Eliminates the need for costly single-purpose machines on many operations.

EASY PRECISION OPERATION—Swing-type belt guard for fast, easy speed changes—work table with clamping ledges and T-slots facilitates work-flow—easy adjustment around quill compensates for wear—plus many more Delta Quality features for years of efficient, precision operation.

STAYS ACCURATE—Built for years of constant everyday use with little maintenance. Reduces costly delays due to breakdowns.

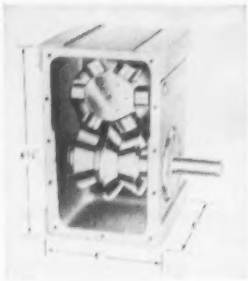
GET ALL THE FACTS—Compare—see why it's your *biggest* drill press value. Your Delta Dealer is listed under "TOOLS" in the Yellow Pages.

DELTA ROCKWELL — another product by **ROCKWELL**
SEND FOR ALL THE FACTS

Delta Power Tool Div., Rockwell Manufacturing Co.
626E N. Lexington Ave., Pittsburgh 8, Pa.
☐ Please send complete information on new Delta 14" Utility Drill Press.
☐ Please send names of my nearest Delta Dealers.
Name _____ Title _____
Company _____
Address _____
City _____ County _____ State _____

▲ For more details circle NED-735 E7 on enclosed inquiry slip ▲

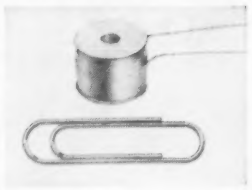
ROLLER GEAR DRIVES
for rapid precision indexing



Rated for 2000 indexes per minute, E series roller gear drives supplement line of standard cam indexing mechanisms. They are designed for packaging, photographic, pharmaceutical, instrumentation and other fields with high indexing speed and low torque requirements. Units have a precision of 0.001-in. and zero backlash without auxiliary locking or locating methods at appropriate point in cycle. Stocked drives have three, four, six, eight and twelve stops and indexing periods of 120, 180 and 270 degrees. Housings are as small as 6¾ x 4 x 4 in. Made by **Ferguson Machine Corp. of Indiana,** Roller Gear Div., Dept. 101, Box 5841, St. Louis 21, Mo.

▲ For more details circle NED-736 E7 on enclosed inquiry slip ▲

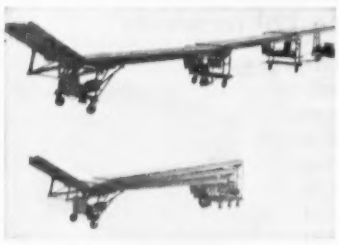
HIGH TEMPERATURE COILS
usable range is −68 to 260° C



Use of Teflon insulation enables minature coils to be used continuously in a −68 to 260° C range. They are nongassing throughout the entire range. Moisture absorption of materials used is zero. Coils resist most chemicals, will not react with coil metals and withstand oxygen attack up to 300° C. Coils can be wound in subminiature sizes using Teflon wire as small as No. 50 AWG. Made by **Tur-Bo Jet Products Co.,** 424 S. San Gabriel Blvd., San Gabriel, Calif.

▲ For more details circle NED-737 E7 on enclosed inquiry slip ▲

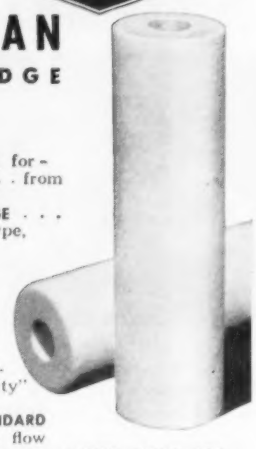
POWERED BELT CONVEYOR
handles 300 lb per lineal foot



Bag-packed materials can be conveyed into or out of trailers and box cars at any rate up to 300 lb per lineal foot by this telescopic belt conveyor. Unit is supplied in two, three or four sections, each of which can be 10, 12, 14 or 16 ft long. Belt on each section is driven by separate motor and can be 10, 20 or 30 in. wide. Conveyor is mobile and telescopes by power drive. Pivotal action between sections accommodates differences in dock and trailer levels. An elevating boom which travels from floor to 6-ft height is optional. Made by **Wilkie Co.,** 5521 Arch St., Philadelphia 39, Pa.

▲ For more details circle NED-738 E7 on enclosed inquiry slip ▲

SPECIFY CUNO
MICRO-KLEAN
FIBER CARTRIDGE
FILTERS



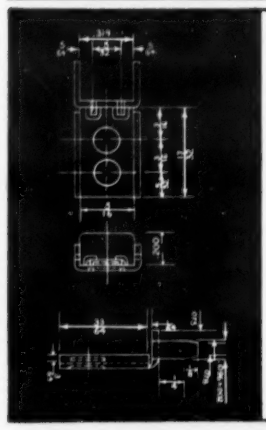
when your designs call for—
- **UNIFORM FINE FILTRATION** . . . from 5 to 75 microns.
- **A WIDE APPLICATION RANGE** . . . including oils of every type, water, compressed air, gases and a variety of other fluids.
- **SPACE-SAVING COMPACTNESS** . . . high flow rates with small unit size.
- **LOWEST CARTRIDGE REPLACEMENT COST** . . . because exclusive Cuno "Graded Density" *doubles* cartridge life.
- **A COMPLETE LINE OF STANDARD HOUSINGS** . . . providing flow rates from a few gallons per hour to hundreds per minute!

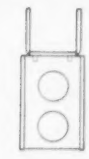
WRITE NOW FOR FREE DESIGN DATA

A COMPLETE DESIGN-ENGINEERING SERVICE . . . to help you solve all your filtration problems is available through the Cuno Field Engineer conveniently located in your area.

CUNO ENGINEERING CORPORATION
1705 SOUTH VINE STREET, MERIDEN, CONN.
ONLY CUNO offers you ALL 5 TYPES of Filter Media:
EDGE-TYPE, WIRE-WOUND, SCREEN, FIBER CARTRIDGE and POROUS METAL

▲ For more details circle NED-740 E7 on enclosed inquiry slip ▲





WE MADE 10,000,000
. . . all interchangeable

This lug, a small metal component for an electrical device, was pierced, blanked and formed *in one operation*—at the rate of 7,000 pieces per hour . . . and at a cost so low it will surprise you.

Each of the 10 million lugs we have made over the years for one of America's great electrical companies is to exact tolerance, interchangeable with each of its 9,999,999 brothers!

If you use metal components, our modern, high-speed machines can lower *your* production costs, too. And it will cost you nothing to find out—we'll be glad to estimate on your sample or blueprint.

Write for illustrated folder

ART WIRE AND STAMPING COMPANY
15 Boyden Place Newark 2, N. J.

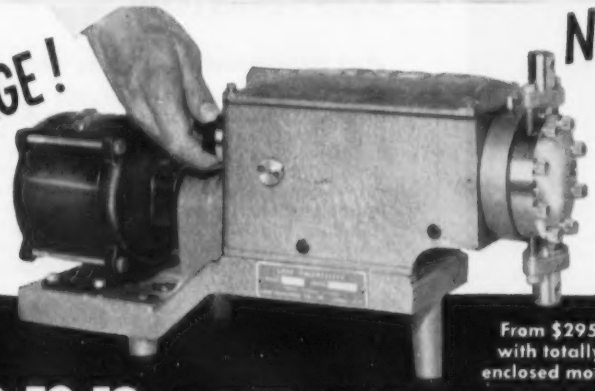
▲ For more details circle NED-741 E7 on enclosed inquiry slip ▲

Lapp "MICROFLO" PULSAFEEDER
Pumps problem liquids at micro-flow rates

Now, for laboratory, pilot plant or industrial application . . . a controlled-volume chemical pump that's adjustable while idle or operating. All liquid handling parts of corrosion resistant materials . . . no stuffing box or other leak-likely seal. Other models for higher flow, higher pressures.
Model LS-10, capacity 2300 ML per hr. at 1000 psig.
Model LS-20, capacity 1040 ML per hr. at 2000 psig.

NO LEAKAGE!

NO STUFFING BOX!



From $295 with totally enclosed motor

WRITE *for Bulletin 500 which gives complete specifications. Lapp Insulator Co., Inc., Process Equipment Div., 847 Wilson St., LeRoy, N. Y.*

Lapp PULSAFEEDER
CONTROLLED-VOLUME CHEMICAL PUMP

▲ For more details circle NED-739 E7 on enclosed inquiry slip ▲

The Sign of QUALITY MOTOR CONTROL

Roller lever—spring return Rod type—spring return

OILTIGHT LIMIT SWITCHES

Bulletin 802T oiltight limit switches have set the pace for limit switch performance. Compact, yet rugged . . . they are built for millions of reliable operations. A wide selection of actuating mechanisms, with a variety of adjustments, provide flexibility in satisfying various application and operating requirements. For complete information, send for 8-page Bulletin 802T.

Allen-Bradley Co.
1334 S. Second St., Milwaukee 4, Wis.
In Canada—Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
SOLENOID MOTOR CONTROL
QUALITY

▲ For more details circle NED-742 E7 on enclosed inquiry slip ▲

First and Only Disc-Type Brake to Fulfill J.I.C. Specifications

The efficient, direct-action operating advantages of the Reuland disc-type magnetic brake are now available for the first time in this self-contained unit. Being foot mounted it can easily be coupled to existing motor or equipment shafts in accordance with J.I.C. specifications. As a standard unit it also can be purchased "off the shelf" by O.E.M.'s or added to equipment at any time by users. Available with either single or double end shaft.

ALSO AVAILABLE WITHOUT SHAFT

Reuland disc-type brakes (either end bell or foot mounted) are also available for applications where the motor or equipment shaft can be extended directly into the brake. Combined with Reuland Fluid-Shaft motors and Motoreducers they provide many additional power and brake combinations.

Please Request Reuland Magnetic Brake folder No. MB-1050

Other **REULAND** *firsts!*

- Motor with internal fluid coupling
- All-aluminum motor frames
- Spline-coupled hydraulic pump motor
- Precision motors for machine tools
- "Through-Shaft" magnetic disc brakes
- Slip Ring motors in small #66 frames

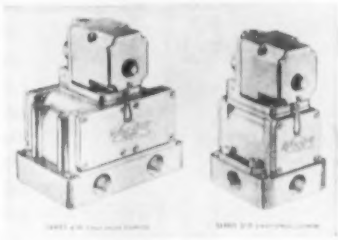
Free general catalog of the COMPLETE Reuland line of STANDARD and SPECIAL Motors sent on request.

REULAND MOTORS

REULAND ELECTRIC COMPANY
Western Division: Alhambra 83, California
Eastern Division: Howell 83, Michigan
Distributors in all principal cities

▲ For more details circle NED-743 E7 on enclosed inquiry slip ▲

AIR CONTROL VALVES
for two, three, four-way operation at speeds of 600 cycles per minute



Line of 150-psi Nopak-matic poppet type air control valves is available for two, three and four-way operation with master (air), single or double solenoid pilot control. The single and double solenoid pilot heads incorporate a Flow-Director for automatic selection of pilot air pressure supply from whichever port is used in an inlet.

Any three-way valve (right) can be piped normally open or normally closed to pressure by piping to the proper port. Any fourway valve (left) can be piped with pressure to either of two inlet ports, thus changing the flow pattern and eliminating criss-cross piping. All three-way valves have two cylinder outlet ports and four-way valves are available with side or bottom porting. Any pilot head (master, single or double solenoid) can be used on any valve, regardless of type or size. Speeds in excess of 600 cycles per minute are possible. All models comply with JIC standards. Made by **Galland-Henning Mfg. Co.**, Nopak Div., 2755A S. 31st St., Milwaukee 46, Wis.

▲ For more details circle NED-744 E7 on enclosed inquiry slip ▲

AIR CONDITIONERS
multizone units supply heating and cooling simultaneously

Constructed to serve any one or several different zones in a building, Flow-Temp Multi-Zone air conditioners are available in eight sizes with capacities from 1370 to 21,000 cfm of air. Buildings in which heating and cooling are required simultaneously can be supplied with either filtered, cooled and dehumidified air, or filtered, heated and humidified air. They can also supply a mixture of both types of air in any proportion.

Number of zones served ranges from 6 to 22, and each includes interconnected hot and cold air dampers. Double-tube steam coils are arranged to minimize variations in air temperature across the coil face. Cooling coils are similarly balanced. A complete line of accessories is available for all sizes of both vertical and horizontal models. Made by **Acme Industries, Inc.**, 450 Mechanic St., Jackson, Mich.

▲ For more details circle NED-745 E7 on enclosed inquiry slip ▲

Get convenience, economy and efficiency with

CANNON POWER PLUGS

Signal Corps Sealed Power Connector for Radio and Radar

- Easily engaged, using wing bladed screw
- Easy to wire
- Watertight and pressurized
- Pin or socket inserts for plugs or receptacles
- Interchangeability of inserts of same size
- Rugged construction . . . Durable finish
- 10 and 20-amp. contacts
- Built to Signal Corps Specs.

Ask for 2E Bulletin and Battery Connector Bulletin

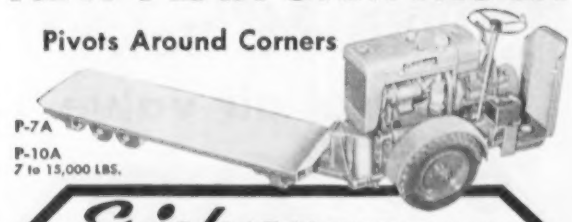
Please refer to Dept. 113

CANNON ELECTRIC CO.
3209 Humboldt Street,
Los Angeles 31, Calif.

▲ For more details circle NED-746 E7 on enclosed inquiry slip ▲

NEW PLATFORM TRUCK

Pivots Around Corners



Erickson THE WORKHORSE OF LIFT TRUCKS

A revolutionary achievement in handling of any heavy loads in close quarters is the Erickson Ar-Tic-U-Lated Platform Truck. Hinged between platform and power unit, the new Ar-Tic-U-Lated Ericksons enable the operator to maneuver accurately in small space or narrow aisles—and pick up or place the load quickly. Power steering is standard equipment. Turning radius is dependent on size of platform beds which are made up to 10 or 12 feet long. Platform beds rise vertically enabling materials to be closely stacked to conserve space. Capacities to 15,000 lbs.

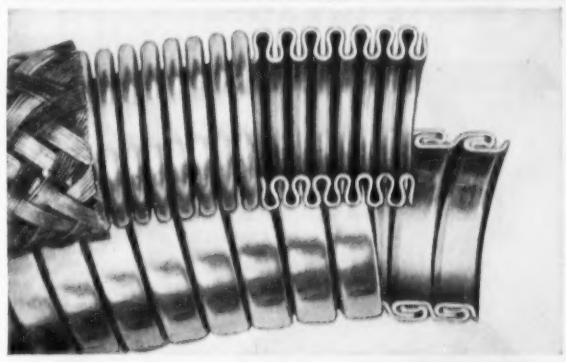
FORK MODELS—Designed for both indoor and outdoor use, there is an Erickson model to exactly fill your materials handling requirements. Every Erickson features balanced traction, ease of operation and complete safety for loads and operators. Special attachments are available to handle any type of material. Capacities 2,000 to 20,000 lbs.

F-4R, 5R, 6R
Cap. 4-5-6,000 lbs.

Write for Catalog

ERICKSON POWER LIFT TRUCKS, INC.
247 St. Anthony Blvd. N.E., Minneapolis 18, Minn.

▲ For more details circle NED-747 E7 on enclosed inquiry slip ▲



TWO BASIC TYPES OF FLEXIBLE METAL HOSE AVAILABLE FROM AMERICAN

Seamless Corrugated and Stripwound. Both types available in a wide range of sizes and styles in any workable metal. Furnished with or without end fittings attached. *Seamless* (top) is an easily installed, low-maintenance, long-life solution to any flexible connector problem involving conveyance of steam, oil, liquids, gases under pressure. *Stripwound* (bottom) heavy-duty hose combines all-metal strength with extreme flexibility, permitting easy installation and handling—for steam, water, oil, tar, asphalt, etc.

FREE CATALOG—G-560—simplifies selection & ordering of flexible metal hose & tubing. For copy, write: The American Brass Company, American Metal Hose Division, Waterbury 20, Conn. 67184

WHEREVER CONNECTORS MUST MOVE **AMERICAN**
Flexible Metal Hose and Tubing
an **ANACONDA**® product

▲ For more details circle NED-748 E7 on enclosed inquiry slip ▲

Does VOLKSWAGEN bother *Cadillac?*

We don't make CADILLAC air cylinders and we don't pretend that we do . . .

We do claim that we make very good cylinders at very good prices.

BORE	BASIC PRICE	ADD PER " OF STROKE
1⅛"	$15.50	$.35
1¼"	$20.50	$.50
2"	$25.50	$.55
2½"	$29.50	$.65
3"	$32.50	$.95
4"	$47.50	$1.20

We furthermore claim that we work hard to ship from stock and our sales chart tells us that we are being successful on all accounts —

Besides cylinders, we also make the ALLENAIR line of AIR VALVES, AIR CLAMPS and DIAL FEED TABLES and if we could tell you right here all there is to tell you about what we offer and how those products can increase your PRODUCTION at MINIMUM COST we wouldn't need the $1.25 24-page catalogue that is available for free this month to anyone seriously interested.

P.S.—The cylinder pictured is a Factory Reject. The only rods available are straight ones and made out of #416 Stainless Steel ground and polished stock and repolished after machining. The bearing is nylon.

The answer to the question on top of this page is: Not one bit. There is a market for both!

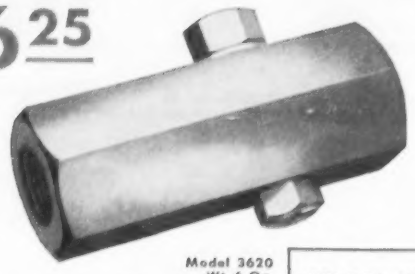
THE A. K. ALLEN CO.
57 Meserole Ave., B'klyn 22, N. Y.

THE A. K. ALLEN CO. 57 Meserole Ave., Brooklyn 22, N. Y. NED-5
Name _____
Company _____
Address _____
City _____ Zone _____ State _____

▲ For more details circle NED-749 E7 on enclosed inquiry slip ▲

RIVETT 3/8" flow control air valve

$6.25



Model 3620
Wt. 6 Oz.
3" Length x 1 1/8" Hex.

150 P.S.I. AIR
300 P.S.I.
OIL OR WATER

Meters flow in one direction; allows free flow in opposite direction. Anodized aluminum body; nylon poppet; corrosion-resistant adjusting screw with slotted hex head. Tightening hex nut on opposite end of adjusting screw locks setting.

Call your local Rivett Dealer or write direct.

RIVETT LATHE & GRINDER, Inc., Dept. NED 5 Brighton 35, Boston, Mass.

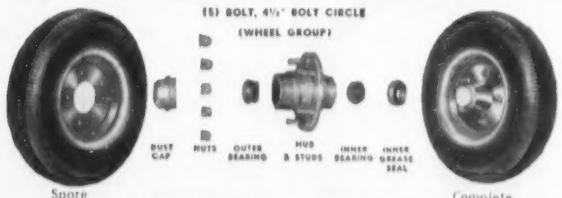
RIVETT FURNISHES A COMPLETE POWER PACKAGE

For more details circle NED-750 E7 on enclosed inquiry slip

DICO DEMOUNTABLE WHEELS for TRAILERS . . . FARM EQUIPMENT and INDUSTRIAL USE

ENGINEERING SERVICE FOR ORIGINAL EQUIPMENT MANUFACTURERS

Dico engineering recommendations covering speed, load capacity, thrust, axle design and other operating problems . . . available to equipment manufacturers.



ONE HUB FITS ALL WHEELS

4.80/4.00x8	2.50"	Standard Rim
4.80/4.00x8	3.75"	Wide Base Rim
5.00x8	3.75"	Standard Rim
5.70/5.00x8	4.25"	Wide Base Rim
5.50x8	4.25"	Wide Base Rim
6.90/6.00x9	4.00"	Standard Rim
4.80/4.00x12	4.00"	Wide Base Rim
5.30/4.50x12	4.00"	Wide Base Rim
6.00x12	4.00"	Wide Base Rim

The largest and most diversified line of industrial low speed and high speed wheels in the U.S.A. . . . in sizes up to 24" rubber tire diameter.

DICO LET DICO HELP YOU WITH YOUR WHEEL APPLICATIONS

DES MOINES 5, IOWA

For more details circle NED-751 E7 on enclosed inquiry slip

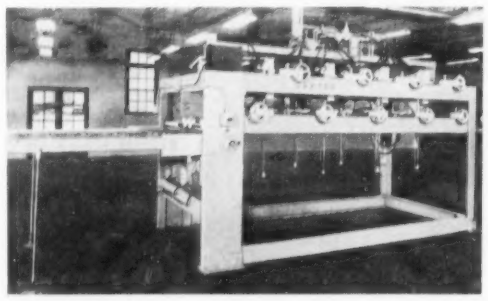
GAS UNIT HEATER
has automatic two-speed fan control

Flexi - Temp control system which minimizes temperature fluctuation and closely approaches continuous air circulation is optional on 25,000, 50,000, 75,000 and 100,000-Btu model suspended gas unit heaters. Rising temperature in the heat exchanger turns the fan on at low speed. When the temperature reaches a second predetermined level, the fan is automatically turned to high speed. Process is reversed as the heat exchanger cools. All controls are located in one easily reached group. Toggle type winter-summer fan switch is standard. Optional equipment includes stainless steel heat exchangers, vertical louvers and discharge nozzles. Made by **Reznor Mfg. Co.**, 168 James St., Mercer, Pa.

For more details circle NED-752 E7 on enclosed inquiry slip

SHEET STEEL FEEDER
feeds up to 1/8-in. sheet steel into presses, formers or trimmers

Heavy gage sheet steel up to 1/8-in. thick can be fed to punch presses, shot blasters, roll formers, slitters and trimmers by this machine. It can be built for

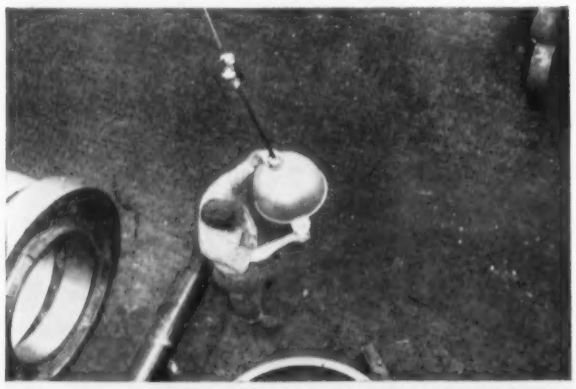


sheets of any reasonable size. The illustrated machine handles 42 x 120-in. sheets. Stacks of sheets are brought to the feeder and placed on its loading platform (not shown) by fork truck.

Vacuum cups grip the top sheet and lift it up to 18 in. to permanent magnets which hold it in standby position. Equipment being fed triggers the feeder when it is ready, and a pusher shoves the sheet into feed rollers which, in turn, deliver it to a short conveyor section leading into the processing machine. Suction cups and magnets are positioned for varying sheet sizes by hand wheels. Made by **Dexter Folder Co.**, Dept. HLF, 219 E. 44th St., New York, N. Y.

For more details circle NED-753 E7 on enclosed inquiry slip

Here's a company cutting costs!



with THOMPSON HANGERS

For details and prices, write for new Bulletin TH-56.

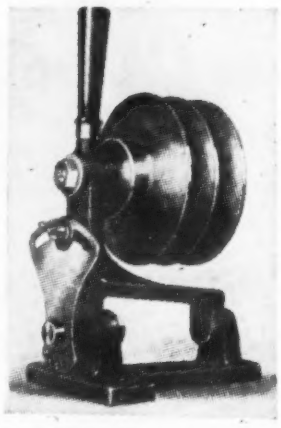
This maintenance man is relamping a high-bay luminaire at floor level. He needs no ladder, scaffold or assistance to lower the light 30 feet, service it and then position it . . . all within minutes. And he is absolutely safe from electrical hazards.

When lights are mounted on THOMPSON HANGERS, luminaire maintenance becomes a simple one-man job. In fact, there is no faster, safer, more economical means of servicing lights mounted 16 feet or more above floor level.

T-E THE THOMPSON ELECTRIC CO.
1138 POWER AVENUE • CLEVELAND 14, OHIO

For more details circle NED-754 E7 on enclosed inquiry slip

VARIABLE SPEED CONTROL



Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H.P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameter, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co.**, 2224 Albion St., Toledo, O. **Adv.**

For more details circle NED-755 E7 on enclosed inquiry slip

FERANCE PRODUCTS BEAM COMPASS

Actual size courser with 9/16" x 9/32" beam section.

SAVE TIME and MONEY

Beam lengths from 7" to 72" . . . one piece anodized aluminum.

Choice of colors in attractive plastic coursers with metal inserts at all wear points. Nylon coursers now available.

3 sets available, individually priced from $3.25 (15% quantity discount on 3 sets or more).

Sets in attractive boxes with segmented 9¼" long, aluminum or wood beams . . . lock firmly together.

Send For Circular and Price List Today

FERANCE Construction Co.
28 Woodside Drive • Penfield, N. Y.

For more details circle NED-756 E7 on enclosed inquiry slip

Get this new buying guide

for LABORATORY and PRODUCTION OVENS

New 8-page color illustrated brochure describes re-designed models of four laboratory ovens and six production type ovens in Standard, Heavy Duty and Super Duty Capacities.

Comprehensive diagrams showing the Despatch "Whirlblast" Forced Air convection systems are included. Construction and engineering features are clearly illustrated by separate photographs of important components. Pictures show typical installations and give specifications of 10 models of gas and electric fired ovens in the Despatch "V" series. Discover how Despatch Engineering Service can help you with your selection of a new oven that will exactly fulfill your needs.

write for your copy of **BULLETIN #100 now**

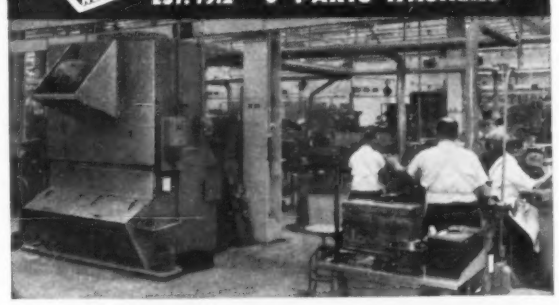
DESPATCH OVEN CO. Established in 1902

DESPATCH OVEN COMPANY
325 8th Street S.E.
Minneapolis 14, Minnesota

For more details circle NED-757 E7 on enclosed inquiry slip

• INDUSTRIAL OVENS
• DUST COLLECTORS
• SPRAY BOOTHS
• PARTS WASHERS

EST. 1912



UNI-WASH DUST COLLECTORS

Compact, complete recirculating Water-Type Dust Collectors for industrial processing dusts. Dirt is collected as wet sludge which may be carried away automatically. No moving parts. Extremely efficient for grinding operations. Eliminates danger of explosion from magnesium and aluminum dust. Proven in foundries. Standard Units available.

For Bulletins and Quotations, write to:

NEWCOMB-DETROIT

5769 RUSSELL ST. • DETROIT 11, MICH.

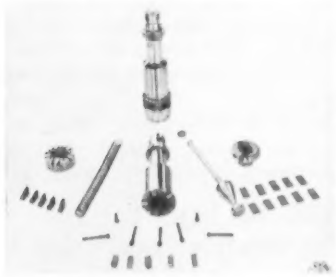
For more details circle NED-758 E7 on enclosed inquiry slip

HEAVY-DUTY AIR DRILL
construction facilitates servicing

Subassembly construction of model H 1000-rpm air-powered drill with ½ - in. Jacobs chuck facilitates servicing. The 9-lb tool develops 22 lb - ft of torque. Gear case can be removed from drill without disturbing the motor, and vice versa. Three-gear planetary system allows balancing of load on the sun gear and Oilite bearings. Motor bearings are preloaded to prevent end plate wear. Features include a boss for attaching a ½-in. pipe to offset torque, a protected governor, positive oiling system and double-acting throttle which can be easily regulated. Made by **Air Speed Tool Co.**, 1502-N W. Slauson Ave., Los Angeles 47, Calif.

For more details circle NED-760 E7 on enclosed inquiry slip

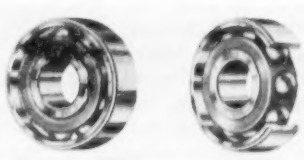
PRODUCTION HONING TOOL
has 1½ to 5-in. ID range



Hardened steel inserts used to form the two sides of this quick loading high production honing tool minimize wear and allow shop maintenance of the tool body. Range of the plate type tool is limited from 1½ in. minimum to 5-in. maximum ID. Stone lengths are limited to 3 to 5 in. Photo shows wing type honing stone which is made by placing abrasive in a trough-like form of plastic impregnated kraft paper. Made by **Barnes Drill Co.**, 866 Chestnut St., Rockford, Ill.

For more details circle NED-761 E7 on enclosed inquiry slip

BALL BEARINGS
metric series has fractured race



By fracturing the outer ring of standard metric series ball bearings, it may be opened sufficiently to introduce a maximum complement of balls. Fractured Race Technique precludes loss of thrust load-carrying capacity, provides maximum number of balls for long life and high load capacity, and makes possible one-piece ball retainer. Fractured ring closes by its own resiliency and is secured by circumferential holding wire or rings. Fracture does not weaken bearing. Wide variety of single and double row types and sizes is offered. Made by **Split Ballbearing Corp.**, Lebanon, N. H.

For more details circle NED-762 E7 on enclosed inquiry slip

Stacking Problem? **call EMI**

anything can be

"well stacked"

or shipped on EMI racks

Big or little, strong or fragile, *anything* stacks or ships better on EMI quality racks. They protect stock, cut handling costs and speed inventory.

EMI RACKS are made of strong, tubular steel and are adjustable to fit any space or unit load. Special racks designed to your specifications with field engineering service on any installation.

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Well Stacked Racks for Industry

EQUIPMENT MFG. INC.

21566 HOOVER ROAD DETROIT 5, MICHIGAN

For more details circle NED-759 E7 on enclosed inquiry slip

REPLACE 42 SIZES WITH THESE TWO

NEW GIANT ALLOY

adjustable wrenches

THINNER-LIGHTER-STRONGER

Until now 42 fixed size wrenches were needed to handle jobs done by these two *"Slim-Twin"* adjustable wrenches. Slim to permit easy access to tough jobs. Lightweight sturdy, high quality alloy steel for dependable service.

OA24-24" long, ⅞" thick with two jaws. Provides adjustments from 1⅛" to 2⅞" in ⅛" graduations. Extra jaw permits adjustments from 1¼" to 2⅞" in ⅛" graduations. Weight, only 10 lbs.

OA36-36" long, 1⅛" thick. Adjusts from 2⅞" to 4¾" in ⅛" graduations. Weight, only 22 lbs.

Save time and money with OTC "Slim-Twins"

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OWATONNA TOOL CO.

436 CEDAR ST., OWATONNA, MINNESOTA

For more details circle NED-763 E7 on enclosed inquiry slip

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Coppus Airplane Type Heat Killer®

cools large areas — restores efficiency

HEAT KILLER on the job in drop forge plant.

Steel mills, drop forge plants, foundries and other plants with hot working conditions find this Coppus Heat Killer increases worker efficiency . . . at reasonable cost. *A single fan cools large areas.*

Other types also available for cooling furnaces, electrical equipment, for driving out gases, drying out products, drawing out fumes. Write now for detailed information. COPPUS ENGINEERING CORPORATION, 405 PARK AVENUE, WORCESTER 2, MASSACHUSETTS.

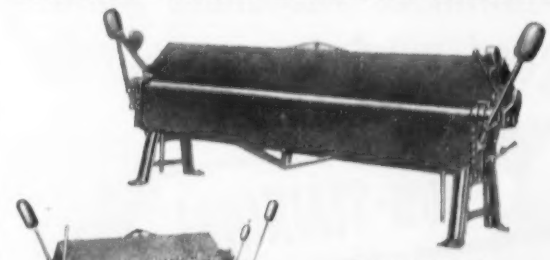
ANOTHER COPPUS "BLUE RIBBON" PRODUCT

For more details circle NED-764 E7 on enclosed inquiry slip

Bending Sheet Metal

single pieces or quantity runs

CHICAGO HAND BENDING BRAKES



Standard
HAND BRAKES
•
Universal
BOX and PAN BRAKES

Both the standard hand brakes and the universal box and pan brakes are available in a wide range of standard sizes. Each features all-steel rugged construction, one-man operation, and quick adjustments.

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6781

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Press Brakes • Straight-Side-Type Presses • Press Brake Dies
Hand and Power Bending Brakes • Special Metal-Forming Machines

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For more details circle NED-765 E7 on enclosed inquiry slip

Cut Maintenance $600

yearly per unit with

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Best By Test!

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Each high speed WORLD Hand Dryer can save up to $600 per year on paper and maintenance . . . dry hands fast as towels . . . keep washroom clean and sanitary.

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Gentlemen: Without obligation send me copies of letters from users, also folder of facts including cost saving figures and full details on your FREE TRIAL offer.

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THIS NEW SQUARE D VOLTAGE TESTER

Tops them ALL!

for further details, write Square D Company, 6060 Rivard Street, Detroit 11, Michigan

NOW...EC&M PRODUCTS ARE A PART OF THE SQUARE D LINE

SQUARE D COMPANY

For more details circle NED-768 E7 on enclosed inquiry slip

How Alcoa Aluminum Fasteners make good windows even better

MEETS AWMA STANDARDS!

You can meet the highest standards of quality and the specifications of the AWMA (Aluminum Window Manufacturers Association) for prime windows of aluminum when you assemble with Alcoa® Aluminum Fasteners. Perfect color match and protection against both galvanic and atmospheric corrosion make for lasting good looks . . . consumer satisfaction. Complete stocks carried by your local Alcoa distributor fill every requirement. He is listed in the Yellow Pages of your telephone directory.

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Fill out coupon for facts, samples

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2245-E Alcoa Bldg., Pittsburgh 19, Pa.

Gentlemen: Please send complete specification data and samples of Alcoa Aluminum Fasteners.

Name _____

Title _____

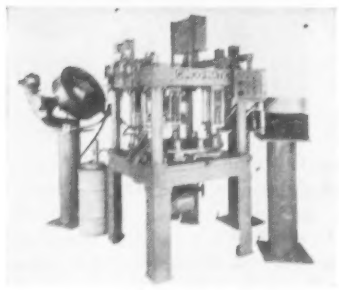
Company _____

Address _____

For more details circle NED-769 E7 on enclosed inquiry slip

ASSEMBLY MACHINES

special units use standard parts components, have 6, 8 or 12 stations



All work stations of special assembly machines are designed around standard tooling support units suspended from the top plate. This permits machine modification for minor part changes. On major part changes, units can be relocated and modified to give different sequence of operation. Machines are built up from standard components, including 16, 24 and 36-in. index table available with 6, 8 or 12 stations; 36, 48 and 54-in. four-part assembly units; and standard work stations.

The latter, when combined with a feeding unit, feed, orient and transfer the part into the tooling fixture on the dial plate. Index tables are driven by electric motor through variable speed pulleys with geneva motion and are electrically interlocked with the machine. Illustrated special machine has 12 stations and is designed for assembling upper horn bearing assemblies for automobiles. Made by **Cimco Engineering Co.**, Ann Arbor, Mich.

For more details circle NED-770 E7 on enclosed inquiry slip

PALLETLESS HANDLING UNIT

attachment for electric fork truck

Normally palletized products can be handled without pallets by a multiple attachment for Lewis-Shepard model E electric fork truck which consists of multiple forks, side - shifter and push - off device. Load is lifted on six forks and deposited on special steel storage racks developed for use with this handling system. Forks fit between the cross beams of the racks. Load is deposited in a truck or boxcar by pushing it off the forks with the push-off device, a plate normally located at the rear of the forks. Placement can be on floor or on top of other articles. Side-shifter makes possible horizontal movement of the forks. Model E truck is offered in 1500 to 4000-lb capacities with fork elevations of 102, 130 and 145 in. Made by **Lewis-Shepard Products, Inc.**, Dept. R-5, 125 Walnut St., Watertown 72, Mass.

For more details circle NED-771 E7 on enclosed inquiry slip

AJUSTRITE® CHAIRS and STOOLS

- Avoids confusion and lost time at start of each period.
- Saves time of supervisors, foremen and maintenance men of adjusting seats for each employee.
- Sturdy construction and special features eliminate maintenance costs—10-year guarantee.

Instantly Adjustable to Meet Individual Requirements

Ajustrite Chairs and Stools enable the worker to instantly adjust the height of the seat, up or down, to suit his individual requirements for correct, comfortable seating posture. No tools are required, no bolts, nuts or screws to loosen, or adjust. User merely lifts the seat to the desired height—the seat holds securely at the point where uplift stops.

32 sizes and models to meet any requirement. 2-way backrest adjustment gives support to stop fatigue. Reduces absenteeism.

Stool Model S1827

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Send for catalog. Choose any model. Try for 30 days (no obligation) the many advantages AJUSTRITE offers.

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SPLIT SECOND ADJUSTMENT ... to any Height Desired

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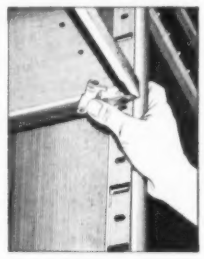
ONLY NEW HALLOWELL

ERECTOMATIC

STEEL SHELVING



has the unique built-in locking device which cuts assembly time, speeds repositioning of shelves

PLUS THESE FEATURES

- Straight-in, straight-out shelf change
- Independent shelf positioning
- Full use of shelf area
- Common side panels and posts
- Beaded posts and flanged shelves
- Full-depth shelf supports
- 4 classes of shelves

The unique built-in locking device,* developed by SPS for its new ERECTOMATIC® steel shelving, speeds assembly and rearrangement of shelves. To position a shelf—just slide it into place, press the locks, and the shelf is locked. To reposition a shelf—release the locks, pull the shelf straight out, slide it straight in at its new location, and press the locks. It takes only seconds to do the complete job. And shelves below and above, to left or right are undisturbed. For complete information, see your local Hallowell distributor. Or write Hallowell Shop Equipment Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pennsylvania.

*Patent applied for

STANDARD PRESSED STEEL CO.

HALLOWELL® SHOP EQUIPMENT DIVISION SPS JENKINTOWN PENNSYLVANIA

For more details circle NED-774 E7 on enclosed inquiry slip

Save Money...with a CAR-ANTH PNEUMATIC

POWER BENDER for bending

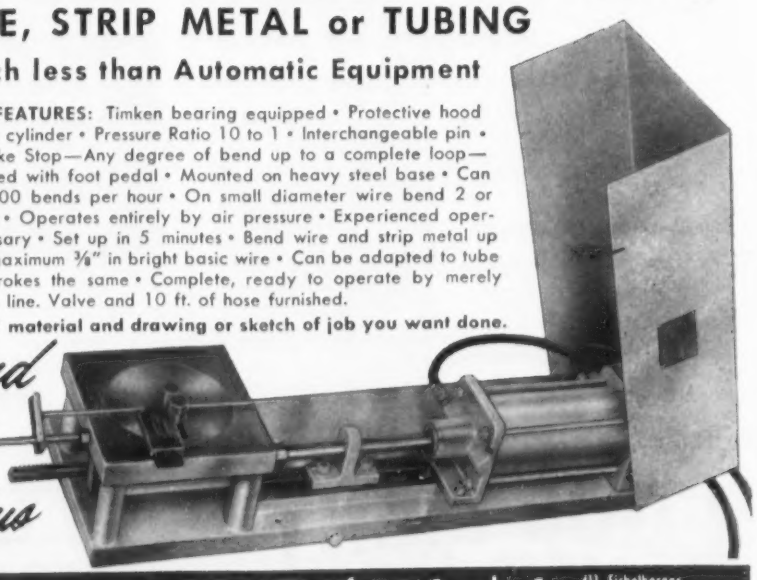
WIRE, STRIP METAL or TUBING

costs much less than Automatic Equipment

NOTE THESE FEATURES: Timken bearing equipped • Protective hood • Powerful—air cylinder • Pressure Ratio 10 to 1 • Interchangeable pin • Adjustable Stroke Stop—Any degree of bend up to a complete loop— • Bench operated with foot pedal • Mounted on heavy steel base • Can make up to 1200 bends per hour • On small diameter wire bend 2 or more at a time • Operates entirely by air pressure • Experienced operators not necessary • Set up in 5 minutes • Bend wire and strip metal up to 2" radius • maximum ⅜" in bright basic wire • Can be adapted to tube forming • All strokes the same • Complete, ready to operate by merely attaching to air line. Valve and 10 ft. of hose furnished.

Send pieces of material and drawing or sketch of job you want done.

any bend up to *2" radius*



Write for more information of what it will do. **CAR-ANTH Mfg. & Supply Co.** 411 Eichelberger St. Louis 11, Mo.

For more details circle NED-772 E7 on enclosed inquiry slip

NEW pocket size thickness gauge

ELCOMETER

Measures Non-Magnetic Coatings with ± 5% ± .0001" Accuracy

ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other non-magnetic coatings quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle locking device assures correct reading every time. Complete with tough leather case containing inner pocket for test strips. Weighs only 6 oz. Completely self-contained. Retail price: $68.00, F. O. B. Cleveland.

WRITE FOR ILLUSTRATED FOLDER

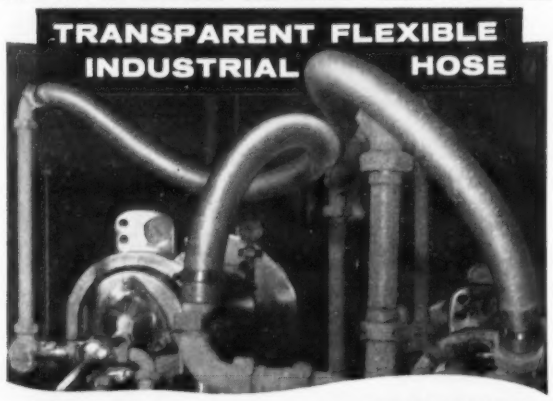
FERRO

FERRO CORPORATION

4181 East 56th St. • Cleveland 5, Ohio

For more details circle NED-775 E7 on enclosed inquiry slip

TRANSPARENT FLEXIBLE INDUSTRIAL HOSE



TYGON *flexible plastic* TUBING

Tygon Flexible Plastic Tubing in bore sizes to 3" makes the ideal industrial hose for many applications because it offers advantages not found in any other type. It combines glass-like clarity with true flexibility and resistance to oils, greases and chemicals. Physically tough, it ruggedly resists abrasion, and withstands repeated flexing and rough usage.

Tygon's many tubing formulations provide types to safely handle a wide and varied range of materials—from sensitive high purity drugs to corrosive acids. Tygon Tubing installs quickly—cleans easily. Fifty-five bore sizes from 1/16" to 3" provide a size for virtually every tubing or hose need. 406-E

Write today for Bulletin T-97 for complete technical data.

Plastics and Synthetics Division

U. S. STONEWARE

AKRON 9, OHIO

For more details circle NED-776 E7 on enclosed inquiry slip

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The Air Control Valves you need are in this catalog

- Poppet-Type
- Rotary Disc
- Sliding Disc
- Speed Control

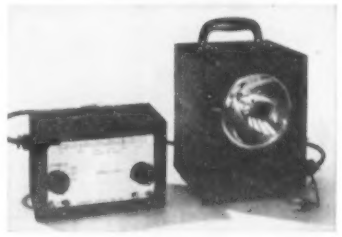
HANNIFIN

Hannifin Corporation, 527 S. Wolf Road, Des Plaines, Illinois

AIR and HYDRAULIC CYLINDERS • PRESSES • AIR CONTROL VALVES

For more details circle NED-777 E7 on enclosed inquiry slip

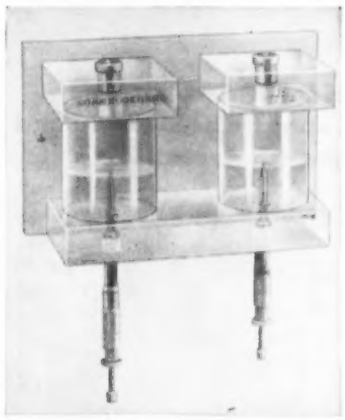
STROBOSCOPE
control and lamp units are separate



Versatility for speed measurement and motion studies is achieved in series 162 stroboscope by building the instrument in two units. Compact 5-lb control head can be located where most convenient, while lamp assembly can be mounted for the best illumination possible. A wide range, continuously variable control head with accuracy better than 1 per cent and stability better than ½ per cent; and a limited range, precision type head with rated accuracy and stability of better than 1/10 per cent are optional. Heads may be used interchangeably or in multiple, and can be synchronized with external signals from tachometers, transducers and signal generators. Terminals are provided for driving electronic counters, oscillographs or recorders. Made by **Slaughter Co.**, Dept. N, Young & College Sts., Piqua, O.

For more details circle NED-778 E7 on enclosed inquiry slip

HOOK GAGE
measures low pressure and vacuum



Accurate measurement of pressure and vacuum in the range of 0 to 2 in. of water is possible with this transparent hook gage. Two interconnected water columns are each equipped with a stainless steel hook controlled by a depth micrometer. Positive or negative pressure introduced to either chamber causes one water column to rise and the other to fall. Height differential is measured by hook micrometers to give the pressure differential in inches of water. Made by **F. W. Dwyer Mfg. Co.**, Dept. NDC, Box 373, Michigan City, Ind.

For more details circle NED-779 E7 on enclosed inquiry slip

CORRECTION

A typographical error appeared in the description of the Boose Power Workshop (*NED-443 March '57*). It was stated than this multiple-purpose woodworking machine will "cut 1½-in. thick lumber." Actually the machine will cut 2½-in. thick lumber vertically and 2-in. lumber on a 45-degree angle. Made by Reamstown Products Co., Dept. M1, Reamstown, Pa.

For more details circle NED-780 E7 on enclosed inquiry slip

for highly corrosive fluids at pressures to 3000 psi

specify

Atkomatic STAINLESS STEEL solenoid valves

features include:

- Packless, globe type, two-way, pilot-piston operation
- Full ported design—½", ¾", 1", 1½" sizes.
- 316 stainless steel construction for maximum corrosion resistance.
- Resilient valve seats for bubble-tight, leak-proof seal.
- Instantaneous or delayed closing speed as desired.
- Single-wound "high pull" coil for pressures to 1500 psi; pressures to 3000 psi require double wound coil and relay.

Highly corrosive liquids and gases plus air, water and oil can be controlled safely and surely even *at 3000 psi* with Atkomatic Stainless Steel Solenoid Valves.

Solve your flow control problems Atkomatic-ly! Send for free 20-page Catalog No. 200-A.

Atkomatic VALVE CO., INC.

Dept. 4-J, 545 W. Abbott St., Indianapolis, Indiana

For more details circle NED-781 E7 on enclosed inquiry slip

WICKWIRE

will help you select the right spring or formed wire

Contact the Wickwire engineers who specialize in springs and formed wire design . . . they can work from sketches or handmade samples.

Get the whole story today. Write for your copy of Wickwire's *Springs and Formed Wires* manual (Bulletin S-500). Wickwire Spencer Steel Division, The Colorado Fuel and Iron Corporation, P. O. Box 551, Palmer, Mass.

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CF&I **WICKWIRE SPRINGS AND FORMED WIRES** 4290

PRODUCT OF WICKWIRE SPENCER STEEL DIVISION THE COLORADO FUEL AND IRON CORPORATION

For more details circle NED-782 E7 on enclosed inquiry slip

LOCKING BOLTS DON'T WORK LOOSE

PLACE LOCK

A vibration-proof fastener that needs no lock washer. Self-locking feature keeps them wrench tight on assemblies and components subject to shock, impact, rotation, or vibration. For use in tapped holes . . . or with nuts.

SPIN LOCK

Angle washer-head teeth permit easy tightening . . . prevent loosening . . . maintain original tightness . . . grip tighter under extreme vibration. An oil and water-tight fastener providing excellent electrical contact. Carburized teeth for strength and long wear.

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Effective against gasoline, alcohol, oil, and air leaks. They thread easy . . . stay locked in ANY position . . . need not be fully seated. Permanent insert of tough, resilient nylon won't shrink, dry, age, or turn brittle . . . WON'T vibrate loose.

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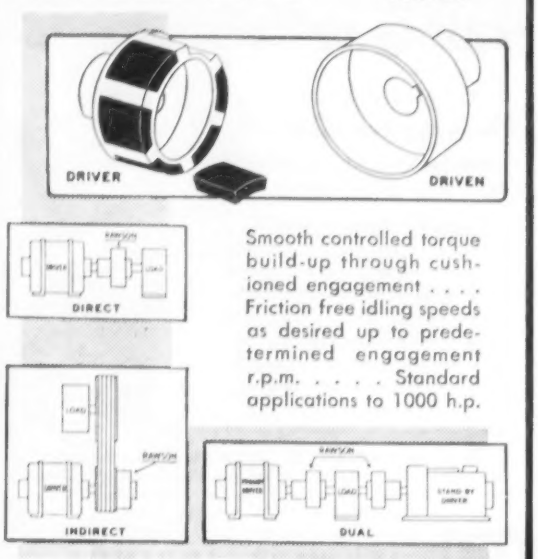
BUFFALO BOLT COMPANY

Division of Buffalo-Eclipse Corporation

NORTH TONAWANDA, N. Y.

For more details circle NED-783 E7 on enclosed inquiry slip

RAWSON® AUTOMATIC CENTRIFUGAL CLUTCH



Smooth controlled torque build-up through cushioned engagement . . . . Friction free idling speeds as desired up to predetermined engagement r.p.m. . . . . Standard applications to 1000 h.p.

RAWSON COUPLINGS
O. S. WALKER COMPANY, INC.
200 Rockdale St. • Worcester, Mass.

For more details circle NED-784 E7 on enclosed inquiry slip

NEW!

Hard chrome finished cones now standard on all IMPERIAL tube flaring tools!

Make SMOOTHER flares up to 55% easier

More evidence of Imperial tubing tool leadership! Industrial hard chrome finish on flaring cones lets you make smoother flares up to 55% easier. Tighter joints every time!

Hard chrome finish resists wear and corrosion. It's diamond-tough to outlast all other metals. And you get this new work-saving efficiency only from Imperial flaring tools.

CUTS FORMING TORQUE UP TO 55%—Tests with standard and hard chrome cones, flaring annealed copper tubing, revealed spectacular work savings created by this new Imperial design.

IMPERIAL NO. 300-F HI-DUTY® FLARING TOOL makes precision 45° flares on 3/16, 1/4, 5/16, 3/8, 1/2 and 5/8" O.D. tubing. Also a full line of Tube Cutters and Tube Benders.

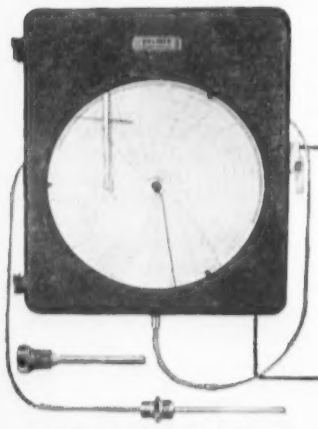
Order from your supply house. Ask for Catalog 3011

THE IMPERIAL BRASS MFG. CO. • 510 S. Racine Ave., Chicago 7, Ill.
In Canada: 334 Lauder Ave., Toronto, Ontario

IMPERIAL Industry's Most Complete Line of Tube Fittings and Tubing Tools

For more details circle NED-785 E7 on enclosed inquiry slip

PALMER MERCURY ACTUATED recorders



Into this modern Mercury Actuated Recorder has gone all the skill of Palmer master craftsmen.

Readings are clearer, smoother and more precise than ever thought possible. In fact readings are so amazingly improved that maintenance is never needed under normal uses.

Recording Thermometers feature twelve inch die-cast aluminum case with black wrinkle or white satin finish. Single or multiple pen construction. Electric or spring wound clock. 24 hour or 7 Day Revolution. Flexible Armor and bulb of stainless steel. Ranges —40 to 1000°F. or Equivalent in °C.

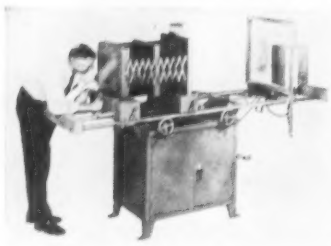
Send for Bulletin No. 45

Consult your Classified Directory

PALMER THERMOMETERS, INC.
Mfrs. of Industrial Laboratory, Recording and Dial Thermometers
Cincinnati 12, O.

For more details circle NED-786 E7 on enclosed inquiry slip

COPYING & REDUCING CAMERA takes "exploded views" for manuals, and makes xerographic plates

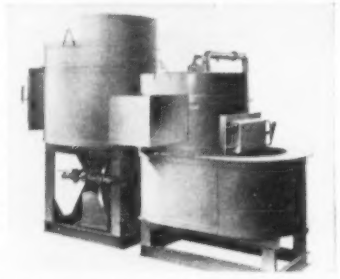


Ability of the Princeton copying and reducing camera to tilt 90 degrees from horizontal to vertical adapts it for taking "exploded views" for technical manuals and instruction books. In an industrial application the camera can be used for copying, enlarging and reducing, turning out negatives or positives of any size up to 24 x 24 in., including Xerographic plates for silk screens or printed circuits for electronic components.

Two basic cameras are 24 x 24 in. and 17 x 17 in., but with special backs they will accommodate film sizes of 19 x 19 in., 14 x 14 in., 11 x 14 in., 8 x 10 in. and 5 x 7 in. Reducing backs extend range down to 2¼ x 3¼ in. Special "tacky back" makes possible use of various film sizes without using holders. Camera consists of front and rear carriages which support lens board and camera back, connected by double bellows. Various lenses and accessories are available. Made by **Burke & James, Inc.,** 311 S. Wabash Ave., Chicago 4, Ill.

For more details circle NED-787 E7 on enclosed inquiry slip

DOUBLE CHAMBER FURNACES incorporate separate breakdown and holding sections for versatility



Exceptional versatility is featured by Stroman double chamber type furnaces which incorporate individual aluminum breakdown and holding furnace units in one compact design. Melt rates range from 450 to 1600 lb per hour, while holding capacities range from 680 to 2450 lb. Since breakdown and holding furnaces are individual units, each interchangeable with the other, it is possible to offer a wide selection of unit combinations.

Combination units can be used as individual component furnaces, such as a holding furnace being hot charged with a transfer ladle, or a breakdown furnace hot charging a furnace of different design or make. Furnace roofs are removable to expose entire inside area. Each furnace is fired with "contained combustion" burner, which assures a mild firing condition. Automatic controls are available. Made by **Stroman Furnace & Engineering Co.,** Dept. 25B, 9900 Franklin Ave., Franklin Park, Ill.

For more details circle NED-788 E7 on enclosed inquiry slip

ELLISCO BRUSH TOP CANS

HAVE MANY ADVANTAGES ... MANY USES!

Inexpensive HO Style: Screw cap has applicator brush riveted in cap. Capacity: 2 oz. to 1 qt.

D-Style: has high grade, bristle brush soldered in cap. Ring or detachable wood handle. Capacity: 3 oz. to 1 qt.

Use convenient, leakproof ELLISCO BRUSH TOP CANS for paints, pipe "dope", red lead, layout blue and your own products. Your servicemen, maintenance men, salesmen and customers will like these cans because they: SAVE TIME — brush fastened to can lid makes application easy; PREVENT WASTE — brush size is ideal for applying small quantities of liquids; INCREASE EFFICIENCY — they are easy to carry and always ready to use.

Write, wire or call for information and prices.

BAldwin 3-3405

Ellisco

GEORGE D. ELLIS & SONS, INC.
4008 N. AMERICAN ST.
PHILADELPHIA 40, PA.

For more details circle NED-789 E7 on enclosed inquiry slip

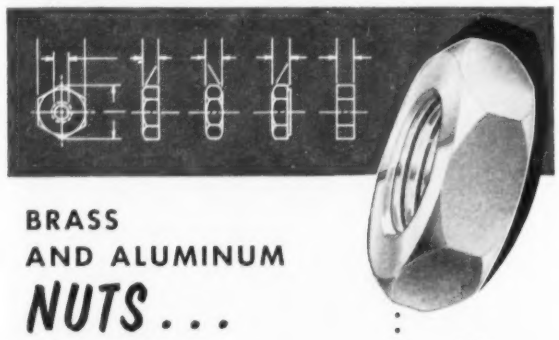
IMPORTANT FREE BOOKLET tells how to maintain Conductive Floors

A single spark can ignite an explosion that might wreck your building.

Best way to drain dangerous static charges is to install conductive flooring. *BUT* even this protection is useless if floors are maintained improperly. If you now have—or ever plan to get conductive floors—read this vital Free booklet. Learn how to retain safe conductivity at all times. Write today.

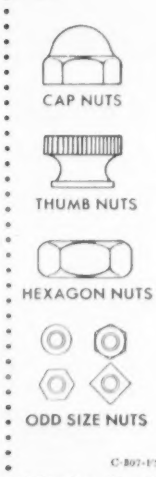
Walter G. LEGGE Company, Inc.
Dept. ND-5, 101 Park Ave., New York 17, N.Y.
Branch offices in principal cities

For more details circle NED-790 E7 on enclosed inquiry slip



BRASS AND ALUMINUM NUTS . . . TO YOUR SPECIFICATIONS

Produced by turning, rather than by less accurate methods, Fischer brass and aluminum nuts set new standards of precision that will speed your assembly operations . . . cut costs. *Yet you pay no more for Fischer's extra quality!* Before placing your next order for special or odd size nuts, send specifications to Fischer for price and delivery quotations.



Write today for Catalog No. 55

Fischer SPECIAL MFG. CO.
461 Morgan Street, Cincinnati 6, Ohio

C-807-FS

For more details circle NED-791 E7 on enclosed inquiry slip

Every Production or Maintenance Man Needs this FREE BULLETIN

This bulletin tells how 100,000 Invincible Vacuum Units are used by industry, 5,000 of them for 25 years. Explains how plant cleaning costs often drop from 30c to 4c per pound of dirt collected when Invincibles are installed. It describes how these portable, one-man units get dust and dirt out of *every* spot in the plant. Tells about production uses of Invincible Machines to remove, reclaim or convey industrial materials; lists many materials handled.

• ASK FOR THE • NEW ILLUSTRATED "100,000" BULLETIN

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

For more details circle NED-792 E7 on enclosed inquiry slip

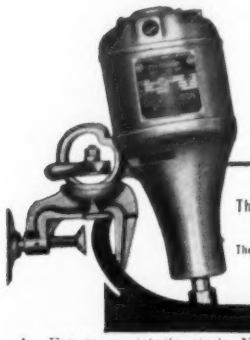
ONE MIXER DOES IT

AT LOW COST - FOR MANY DIFFERENT MIXING JOBS!

The **PATTERSON**

TYPHOON

PORTABLE POWER MIXER



If you have a batch mixing problem, solve it with TYPHOON Portable Mixers! A single unit serves several tanks or kettles—easy to carry from point to point, light, powerful, sturdy, long-lived. Direct or geared drive models from ¼ to ¾ HP. Write!

The Patterson Foundry and Machine Company
A Subsidiary of Ferro Corporation
East Liverpool, Ohio, U. S. A.
The Patterson Foundry and Machine Company, (Canada) Limited
Toronto, Canada
MONTREAL

For more details circle NED-793 E7 on enclosed inquiry slip

ALL-STATE

JIB CRANES

PILLAR, MAST, WALL BRACKET and TROLLEY TYPES

Reduce major production costs, save time and labor with ALL-STATE JIB CRANES. Designed and manufactured to solve your particular material handling problem.

All welded construction—Heavy duty ball bearings—180° to 360° rotation—maximum coverage—Capacities from 250 to 12,000 lbs.

Send for complete FREE information

ALL-STATE Engineering Co., Inc.

Distributors Wanted
Exclusive Territories Open
Write Today.

7056 North 76th St., Milwaukee, Wis.

For more details circle NED-794 E7 on enclosed inquiry slip

POWERFUL NEW-PLUNGER CLEARS CLOGGED TOILETS

in a jiffy!

Clear messy, stuffed toilets
Cut maintenance costs with

'TOILAFLEX'

Toilet ALL ANGLE Plunger

Ordinary plungers don't seat properly. They permit compressed air and water to splash back. Thus you not only have a mess, but you lose the very pressure you need to clear the obstruction.

With "TOILAFLEX", expressly designed for toilets, no air or water can escape. The full pressure plows through the clogging mass and swishes it down.

- Accordion-action design to flex at any angle
- Double-size cup blasts double pressure, aimed directly at obstruction
- Tapered suction-grooved tail gives air-tight fit

Get a "TOILAFLEX" for your home too. Positive insurance against stuffed toilet.

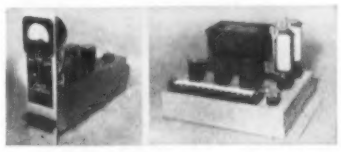
$2.65 Fully Guaranteed

Order from your Supplier of Hardware or Janitor Supplies

THE STEVENS-BURT CO., NEW BRUNSWICK, N. J.
A Division of The Water Master Company

For more details circle NED-795 E7 on enclosed inquiry slip

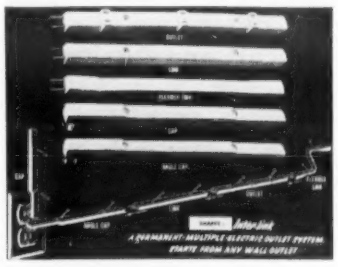
REMOTE POSITIONER
indicates and controls valves, gates



Remote modulation and continuous indication of position of valves, gates, feeders and other devices is function of the Synchro-Scan position indicator/controller. Plug-in type transmitter package (left) has a three-position switch on its face to control the device and a voltmeter-type indicator graduated from 0 to 100 per cent to indicate degree of opening. Packaged receiver unit (right) contains control relays and regulated direct current voltage supply which transmits position indication. Made by **Builders-Providence, Inc.**, 425 Harris Ave., Providence 1, R. I.

For more details circle NED-796 E7 on enclosed inquiry slip

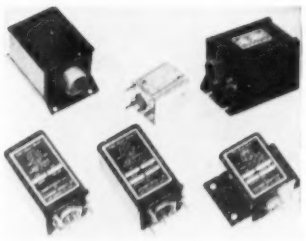
MULTIPLE OUTLET SYSTEM
installed with only a screwdriver



Electrical outlets can be placed just where they are needed with the Snapit Inter - Link multiple outlet system, using only a screwdriver. Starting from an existing wall receptacle, interlocking 1-ft sections are placed around the wall where they are needed. Inter-Link can be used in rooms and offices and is made of lustrous high-impact ivory plastic. Components of the system include a straight or angle cap for plugging into wall outlet, a rigid link for the straight run along wall or baseboard, a flexible link for going around corners or doors and a three-receptacle outlet section. Made by **Cable Electric Products, Inc.**, Inter-link Dept., 234 Daboll St., Providence 7, R. I.

For more details circle NED-797 E7 on enclosed inquiry slip

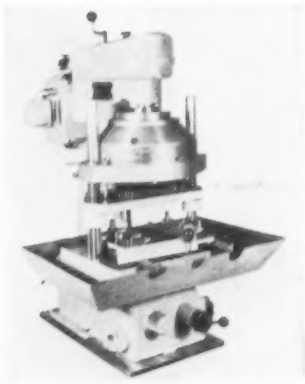
TIME DELAY RELAYS
perform repetitive functions



Four basic types of circuitry are used in line of hermetically sealed electronic time delay relays. Type 1 utilizes subminiature relays with slugged coils. Type 2 is used for short delay times and broad tolerance applications, and contains resistance capacitor networks. Type 3 uses germanium transistors for up to 165° F requirements and silicon junction transistors for up to 250° F needs. Type 4 is used in long delays and requires subminiature vacuum tubes for reliability. Delayed pull-in, delayed drop-out and pulse output are the basic classifications. Uses include camera timers, sequence rocket firing and other repetitive functions. Pulse rates from 40 cps to 1 cpm are available. Made by **Electronic Specialty Co.**, Dept. NED, 5121 San Fernando Rd., Los Angeles 39, Calif.

For more details circle NED-798 E7 on enclosed inquiry slip

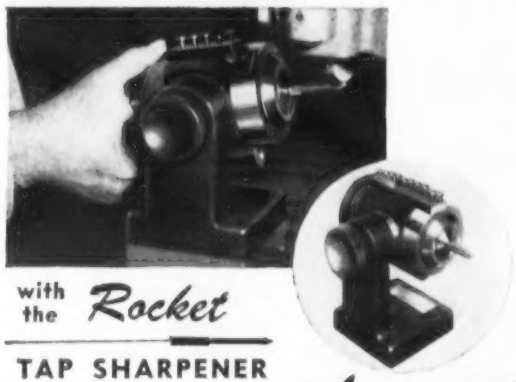
SMALL DRILL PRESSES
have multiple spindle drill heads



Line of small drill presses is available with any desired small diameter, medium-duty gearless drill heads. Table holding part is fed upward into rotating drills at recommended rate to drill the holes. Table travel, drill feed and return travel downward of the table are automatically cycled. Drill press is about 3 ft high and has self-contained operating mechanisms and height adjustability. Unit shown carries an index fixture so that 25 spindles will drill total of 50 holes in two passes. Table is actuated by hydraulic control. Made by **Zagar, Inc.**, 23880 Lakeland Blvd., Cleveland 23, O.

For more details circle NED-799 E7 on enclosed inquiry slip

REDUCE TAP COSTS UP TO 75%



with the *Rocket*

TAP SHARPENER

a low cost fixture that sharpens dull taps
- quickly
- economically
- accurately

Push button control — no cams needed. 50 series for 2, 3, 4 flutes collet capacity to 1-1/16". 60 series for 4, 5, 6 flutes collet capacity to 2-1/4". Special orders for additional flute capacities.
Use on any tool and cutter grinder or small surface grinder . . . Guarantees precision sharpening through accurate grinding.

Write for demonstration and literature

ROCKFORD DIE & TOOL WORKS, INC.
1820 Seventeenth Ave. Rockford, Ill.

For more details circle NED-800 E7 on enclosed inquiry slip

Bendix Bantam
2-WAY RADIO

ALL NEW! Low Power 2-Way FM Radio For All Types Of Industrial Trucks

A single 6/12/24/32 VDC and 117 VAC Communications Unit without costly converters. Operates as mobile or base station.

The most versatile, rugged, low-power industrial radio you can buy, the Bendix* Bantam is the result of over 5 years intensive research and development. Designed and engineered specifically for industrial trucks, it sets a new standard for dependability. Incorporating all the latest electronic advancements which have made Bendix the foremost leader in railroad and aviation communications, the Bantam makes possible real savings in materials handling operations. By equipping your fleet with the Bendix Bantam, you have instant voice contact with each operator. Results: Vehicle traffic is better coordinated, tie-ups avoided, deadheading eliminated and dollars saved.

The Bendix Bantam operates on 6, 12, 24, 32 VDC or 117 VAC without converters. Battery drain is less than a headlamp—the lowest of any mobile radio equipment on the market!

The Bendix Bantam enables mixed fleets to operate with a minimum number of sets, allowing complete interchangeability from one truck to another whether gas, electric, diesel or LPG powered. Mail coupon for full details.

*Reg. U.S. Pat. Off.

DIVISION OF BENDIX AVIATION CORPORATION
BALTIMORE 4, MD.

Bendix Radio

Bendix Radio
Mobile Sales, Dept. L
Baltimore 4, Md.

Gentlemen:
Please send me complete details about the Bendix Bantam 2-Way Radio.

Name _____
Title _____
Firm _____
Street _____
City _____ State _____

For more details circle NED-801 E7 on enclosed inquiry slip

NEW Bulletin Describes

NEW

Demountable Wheel with 2 to 35 times longer life

Severe tests of the new Rapistan 10" MB demountable rubber wheel show it outlasts molded-on rubber wheels by 2 to 35 times to slash replacement costs. Exclusive design gives 100% easier rollability. Tires replaceable in 5 minutes. Now available in 2" and soon available in 3" tire sizes. Write for new Bulletin No. MB-57.

Rapistan®
fastest growing name in casters

The RAPIDS-STANDARD CO. INCORPORATED
101 Rapistan Building
Grand Rapids 2, Mich.

For more details circle NED-802 E7 on enclosed inquiry slip

TRENT "Folded-and-Formed" HEATING UNIT
...for High Temperature Application where "Sheath-Type" Heaters Fail!

The only packaged "non-sheath" type electrical heating element competing directly with fuel fired equipment for temperatures up to 2000° F. . . . Trent "Folded-and-Formed" Heaters now offer advantages not possible with any other type electrical heating unit!

ADVANTAGES—Compact, Space Saving Design • Longer Element Life • Maximum Radiating Surface Area • High Watt Density • High Temperature Uniformity to 2000°F. • Low Thermal Inertia • High Dielectric Strength (600V) • Pin Point Control • All-welded Connections • Unity Power Factor • Direct Fired Element • Eliminates Heat Exchangers, Pipe Networks, etc. • Uniformity Equivalent to Liquid or Vapor Jackets • Economical Installation and Maintenance

APPLICATIONS—Kettles • Air and Duct Heating • Furnaces • Ovens • Reactors • Jackets and Autoclaves • Pipe Lines

Before you design or install high temperature heated equipment, discuss your requirements with a Trent heating engineer. He'll show you how the outstanding features of Trent "Folded-and-Formed" Heating Units can mean greater efficiency and higher production for your application. Write for complete literature on Trent Kettles, Jackets, Ovens, Furnaces and Heating Elements.

Trent Representatives in Principal Cities Coast to Coast

TRENT INC.
Electrically Heated Industrial Equipment
242 LEVERINGTON AVE., PHILA. 27, PA.
In Canada Supreme Power Supplies Limited, Toronto 14

For more details circle NED-803 E7 on enclosed inquiry slip

EX-CELL-O QUILL-TYPE HYDRAULIC POWER UNITS

Style 28-A Maximum Stroke 15"
Style 22-L Maximum Stroke 12"
Style 22 Maximum Stroke 8"
Style 20 Maximum Stroke 4⅛"

Ex-Cell-O Quill-Type Hydraulic Power Units provide a compact, flexible source of power for feeding, rotating and retracting single tools or multiple spindle heads. They are especially suitable for automatic drilling, reaming, counterboring, and spot-facing operations. Styles 20 and 22 Power Units can be equipped for step drilling. For complete information ask your Ex-Cell-O representative or wire Ex-Cell-O in Detroit.

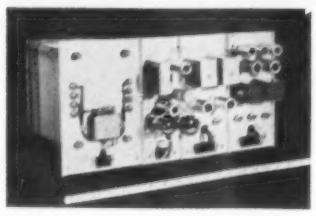
XLO

55-15

EX-CELL-O CORPORATION Detroit 32, Michigan

For more details circle NED-804 E7 on enclosed inquiry slip

AUTOMATIC SIZING SYSTEMS
for size control, gaging, inspection



Adaptable to new or existing machines, these automatic size control, gaging, and inspection and classifying systems are made up of combinations of seven standard components. A typical application of a system to a through-feed centerless grinder includes a meter type size indicator, transducer head of comparator type for size control, servo motors, electronic classifier for operating reject gates and shutoff, and magnetic power amplifier. Also available is a regulated electronic power supply. Engineering service is offered to adapt systems to machines. Made by **Cargill Detroit Corp.**, Dept. DAC, Birmingham, Mich.

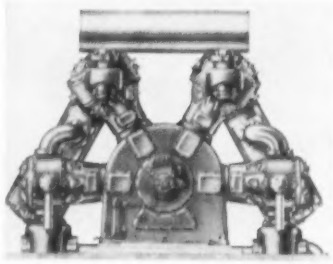
For more details circle NED-805 E7 on enclosed inquiry slip

HYDRAULIC POWER PUMP
designed for aircraft and missiles

Usable in aircraft and missiles, model 66W hydraulic pump is light in weight, yet it delivers up to 5000 psi. Normal operating range is 3000 to 3750 rpm, with output of 7½ gpm at later speed. Tested under military service conditions, it cycled from full flow pressure of 4500 psi to non-flow at 5000 psi for 1000 hours. Made by **New York Air Brake Co.**, Watertown Div., Dept. 27, Starbuck Ave., Watertown, N. Y.

For more details circle NED-806 E7 on enclosed inquiry slip

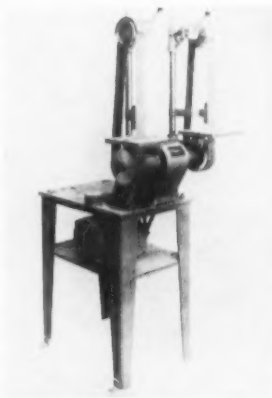
AIR COMPRESSORS
line has 2418 to 6048-cfm output



Three standard single models and three twin unit models, plus corresponding altitude sizes, are available in WN-224 series of heavy duty industrial air compressors. Output at 80 to 125 psi is rated from 2418 to 6048 cfm, depending on motor horsepower. The four-cylinder double-acting, water cooled units are of semiradial design, achieving final pressure in two stages. Twin units consist of two standard compressors powered by one electric motor, diesel engine, steam turbine or turbo-electric unit. High and low pressure variations are offered. Compressor is 9 ft 8 in. high by 12 ft 8 in. wide, with length varying with type of drive from 8 ft 7 in. to 14 ft 2 in. Twin units are from 20 ft 11 in. to 21 ft 11 in. long. Made by **Joy Mfg. Co.**, 300 Oliver Bldg., Pittsburgh 22, Pa.

For more details circle NED-807 E7 on enclosed inquiry slip

ABRASIVE BELT GRINDERS
have 1 or 2-hp V-belt drives



Free belt, contour, plate and contact wheel grinding methods are possible on this model 50 combination abrasive belt grinder. Machine grinds, polishes and deburrs ferrous and nonferrous metals, as well as plastics, ceramics, wood, rubber, glass and other materials. Each belt can be used in vertical or horizontal position. Belts from ½ to 2½ in. wide and 42 to 60 in. long are used. A 1 or 2-hp motor powers V-belt drive. Unit can be furnished with built-in dust collector. Made by **Hammond Machinery Builders, Inc.**, 1623 Douglas Ave., Kalamazoo, Mich.

For more details circle NED-808 E7 on enclosed inquiry slip

GENERAL PLATE BUTTON CONTACTS...

Help You Boost Product Performance—Cut Product Costs

Consider the outstanding features available to you in G. P. clad projection welding contacts:

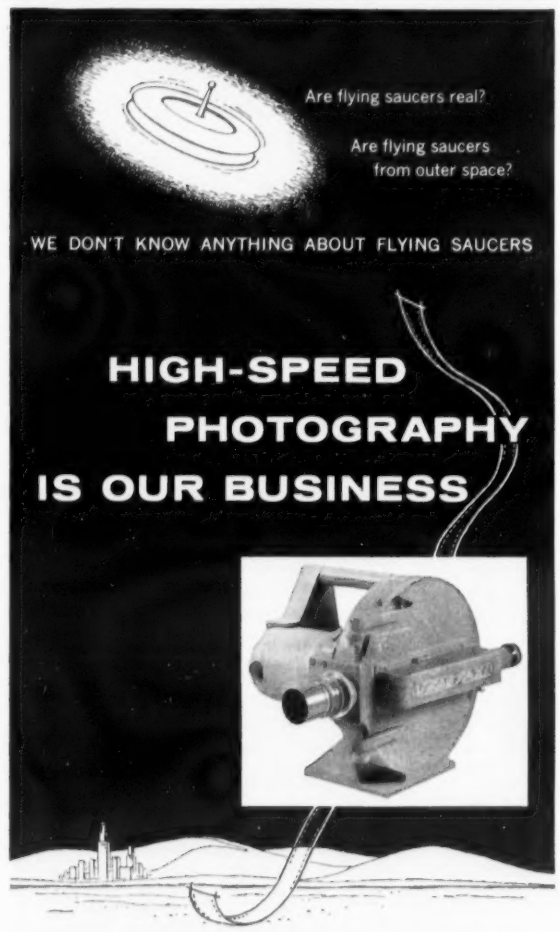
- **TRIPLE CLAD CONSTRUCTION.** Three ply types have copper between contact face and backing for higher specific heat at lower cost — reduces surface temperature — prolongs operating life.
- **WROUGHT METAL FACES.** Contact face materials in both two and three ply types are work hardened in manufacture — resist deformation — give more operations — better tolerance control.
- **WIDE CHOICE OF MATERIALS.** Contact face materials include silver and platinum group metals and their alloys — silver cadmium oxides — refractory metal mixtures. Backing materials include steel — nickel — nickel-silver and monel.
- **WIDE CHOICE OF SIZES.** Tremendous assortment of standard sizes available to meet all dimensional requirements.

Back of this unusual product versatility, is General Plate Division's team of contact experts — ready to help you get the best performance at the lowest cost. Your inquiries are invited.

You can profit by using G.P. clad metals.

METALS & CONTROLS CORPORATION
General Plate Division 1805 Forest Street, Attleboro, Mass.

For more details circle NED-809 E7 on enclosed inquiry slip



From rockets or sleds . . . relays or cutting tools . . . to watches or automobiles FASTAX high speed motion picture studies have pointed out design and mechanical failures in moving parts by "freezing" action too fast for the eye to see.

FASTAX cameras span the instrumentation field: 8mm, 16mm and 35mm; combination cine and oscillographic cameras . . . speed ranges from 150 pps to 16,000 pps . . . no problem too big or small. FASTAX cameras have been photographing mechanical and electrical phenomena for over 20 years.

Whether you need a camera or a complete photo laboratory—film, lights, exposure meter, goose, clamps—Wollensak is ready to serve you.

WRITE and see how high speed photography can help save engineering time . . . cuts down on development time because it enables engineers to pinpoint problems more readily . . . helps picture the answer.

...Leaders in Photo-instrumentation

FOR THE FINEST IN PHOTOGRAPHY THE WORLD OVER · IT'S WOLLENSAK ·

FASTAX DIVISION
WOLLENSAK
OPTICAL COMPANY • ROCHESTER 21, N.Y.

For more details circle NED-810 E7 on enclosed inquiry slip

Stop dangerous handling of INDUSTRIAL LIQUIDS

You can stop dangerous handling of liquids with Tokheim high vacuum pumps. Their use in maintenance work will help prevent spilling, slopping, over-filling and dripping—all enemies of safety. This means your plant can be kept cleaner—work is speeded—waste halted—accidents prevented.

Tokheims are available with hose or spout outlets and other optional attachments. Pump operates on both forward and back strokes—delivers 20 gallons a minute. Will pump 'most anything that pours. Offered with alternate parts to handle special liquids.

Call your dealer, your Tokheim representative; write factory for literature—and approved liquid list.

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GET THE FACTS!
SEND FOR CATALOG 0300-009 TODAY!

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Diebold Files eliminate space-wasting shelving . . . increase storage room capacity up to 100% . . . lock into rigid batteries . . . last a life-time. For reducing costs and improving record filing, send for complete information about Safe-T-Stak Steel Files . . . today.

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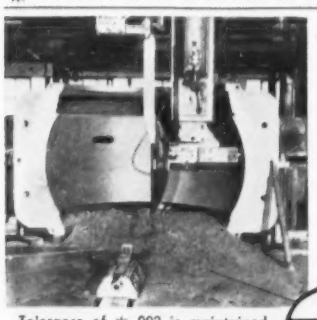

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CONTOUR TRACING on BORING MILLS and PRECISION DUPLICATING
on Lathes or Planers

Tolerance of ± .002 is maintained by Lehigh TRACER-TOOL in boring this huge water-cooled bearing housing and machining the inner bearing. TRACER-TOOL can be removed from boring mill and be in operation on a lathe or planer in less than one hour.

Lehigh
TRACER-TOOL
PROFILE-TRACING LATHE ATTACHMENT

FULL COST LESS THAN $1000

Application and uses are practically unlimited. No complicated hydraulic or electronic controls. Does facing, grinding, boring, steps, threading — unlimited radii. All metals. Thousands in long, satisfactory use. Write for illustrated engineering bulletins and experienced assistance on any duplicating problem — anywhere! FRED H. SCHONBERGER, INC., P. O. BOX 233, NAZARETH, PENNA., National Distributors.

★ *Some territory still available for qualified representatives.*

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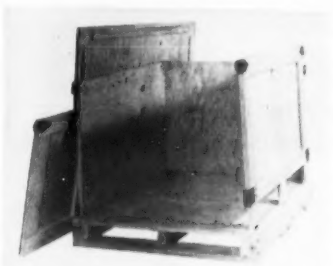
SURFACE-TEMPERATURE TRANSDUCER
accurate in range of −320 to 950° F

Though designed originally for use on guided missiles, this surface - temperature transducer is easily attached to any surface to accurately check temperatures in range of −320 to 950° F. Made of a woven grid of fine platinum wire, it can be specified for a 100-ohm change or more over an assigned temperature span of 100 to several hundred degrees. Companion lead tape of fine silver strands woven into porous glass can be cemented to same surfaces as transducer. Made by **Charles Engelhard, Inc.**, Dept. B, 850 Passaic Ave., East Newark, N. J.

▲ For more details circle NED-814 E7 on enclosed inquiry slip ▲

COLLAPSIBLE SHIPPING CONTAINER
made in plywood panel or slat types



Handling and storage of parts and materials are facilitated with this line of collapsible shipping boxes and storage containers. Stake pocket design permits fast assembly and disassembly. Interlocking steel corners afford strength to withstand rough handling and stacking. Knocked down, containers can be stored in small space. Made of hardwood lumber and plywood, boxes are built with either cleated plywood sides or with slatted crate type construction. They will carry and stack up to 4000-lb loads. Two-section ends can be supplied for accessibility to contents. Made by **Cover Lumber & Supply**, Dept. N, Box 42, Cortland, O.

▲ For more details circle NED-815 E7 on enclosed inquiry slip ▲

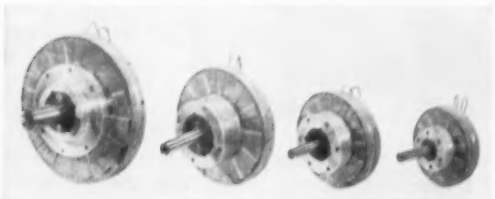
PORTABLE FIRE EXTINGUISHERS
for liquid and electrical fires

UL-approved dry-chemical portable fire extinguishers are particularly suited for combatting industrial fires involving grease, flammable liquids and electrical equipment. Nontoxic, nonabrasive, nonconductive powder quickly smothers flame. These units are now available in 1, 1½, 2¾ and 4-lb sizes for use on Class B and C fires. Prices range from $18.50 to $34. Made by **Leeder Mfg. Co.**, 133 Woodside Ave., Briarcliff, N. Y.

▲ For more details circle NED-816 E7 on enclosed inquiry slip ▲

FAIL-SAFE BRAKES
stop or hold load if power fails

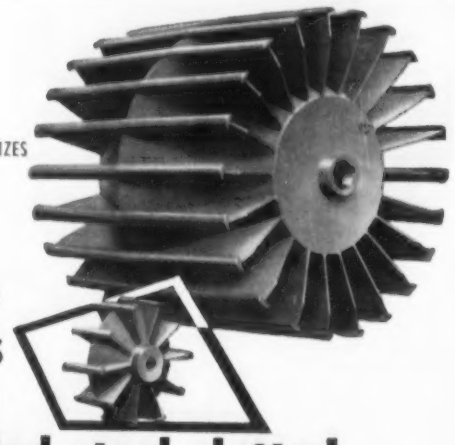
Power torque ratings from 125 to 650 lb-ft and fail-safe torque ratings from 33 to 205 lb-ft are designed into four basic sizes of Power-Safe brakes



which will hold or stop a load if power fails. Only the face and armature require replacement. Brakes are self-adjusting for wear and are easily mounted with either inside bolt circle or outside mounting flange. With a special adapter, they can be mounted to any NEMA "C" flange and used as a motor brake on various machines. Fast stop-start control is achieved by coupling with a Warner electric clutch. Torque can be controlled between that required to release the brake and the maximum power torque. Made by **Warner Electric Brake & Clutch Co.**, Dept. N, Beloit, Wis.

▲ For more details circle NED-817 E7 on enclosed inquiry slip ▲

STANDARD SIZES
12" to 42" DIAMETER
8" to 42" WIDTH



save belts with welded steel slatted pulleys Jeffrey's self-cleaning cone design prevents build-up of gritty or sticky materials that damage and misalign conveyor belts. Wide crossbars give good traction, rounded edges prevent gouging. *Money-saving Jeffrey Slatted Pulleys outlast, outperform solid-face type!* Write Merchandise Sales Division.

JEFFREY
THE JEFFREY MANUFACTURING COMPANY, COLUMBUS 16, OHIO

▲ For more details circle NED-818 E7 on enclosed inquiry slip ▲

HERE'S IMPORTANT GEAR NEWS!

See how you can get increased gear life and greater capacity in less space . . . with the hardest, toughest, most accurate industrial gears made . . . and reduce costs at the same time!

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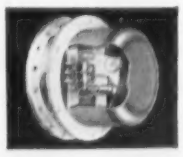
FOOTE BROS.

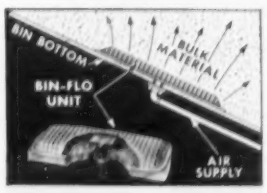
▲ For more details circle NED-819 E7 on enclosed inquiry slip ▲

NEW BIN LEVEL INDICATOR

New ROTO-BIN-DICATOR®
Motor driven paddle-type bin level indicator
For automatic bin level indication or control of bulk materials. Particularly suited to applications on bins subject to pressure or vacuum.
EXPLOSION-PROOF
U. L. listed units available

BIN-DICATOR®
The original diaphragm-type bin level indicator. In successful use for 20 years.





BIN-FLO®
Assures gravity flow of pulverized materials
Bin-Flo Aerator units in bins, chutes, etc., use small volume, low pressure air to restore flow to dry, pulverized materials which tend to pack and bridge in storage.

THE BIN-DICATOR CO.
13946-A Kercheval • Detroit 15, Mich.
Write for detailed Literature or call VAlley 2-6952

WE SELL DIRECT • PHONE ORDERS COLLECT

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Save on AIR
with ARO HI-LO speed couplers

HI VOLUME of air . . . passes *all* the air you need . . . leakproof . . . positive lock . . . easy disconnect.

LO PRESSURE drop . . . most efficient coupler by actual test! Cuts operating costs for all air-powered devices.

Write for complete details on performance and sizes.

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GENERAL OFFICES—BRYAN, OHIO
Plants at Bryan and Cleveland, Ohio
Aro of California, 3141 S. Grand Ave., Los Angeles 7, Calif. • Aro Equipment of Canada, Ltd., Toronto 15, Ontario
Offices in All Principal Cities

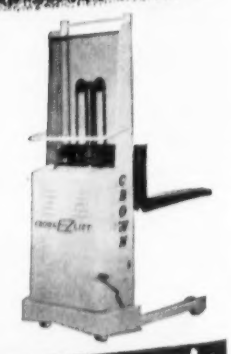
ARO®

SPEED COUPLERS
Also AIR TOOLS . . . AIR HOISTS . . . LUBRICATING EQUIPMENT . . . AIRCRAFT PRODUCTS...GREASE FITTINGS

For more details circle NED-821 E7 on enclosed inquiry slip

CROWN E-Z LIFTS
Speed Loading . . . Unloading
Die Handling . . . Stacking . . .
Lifting Jobs of All Kinds

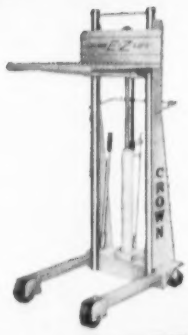
PRICED FROM JUST $195.00



MODEL BL 1250-56—

1250-lb. capacity*, battery operated hydraulic lift with dependable 12-volt electrical system including built-in battery charger. Highly maneuverable with extremely short turning radius—easily handled by one man. Automatic overload protection . . . dual foot brakes . . . maximum lift 56" above floor. Remote control available as optional feature. Price, including battery, $580.00, F.O.B. New Bremen, Ohio.

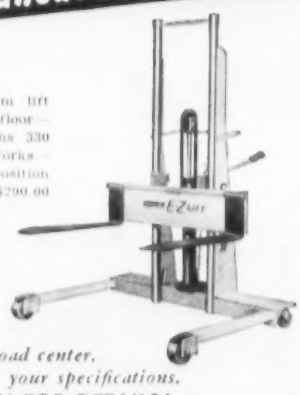
Low Cost . . . Easily Operated



MODEL LT-1000—

1,000-lb. capacity*. Extra strong tubular steel construction, safety plate platform, foot-operated brake. Maximum lift 54" above floor—lowers to 5¼" above floor—straddle capacity 16¼". Weighs only 270 pounds. Price $240.00 F.O.B. New Bremen, Ohio.

Highly Maneuverable



MODEL FL-1000—

1,000-lb. capacity*. Maximum lift 54" above floor—lowers to floor—straddle capacity 38". Weighs 330 pounds. 4" x 24" sliding forks—easily adjustable to any position from 11" to 34". Price $290.00 F.O.B. New Bremen, Ohio. Optional "Snap-On Safety Platform" for quick conversion to lift table.

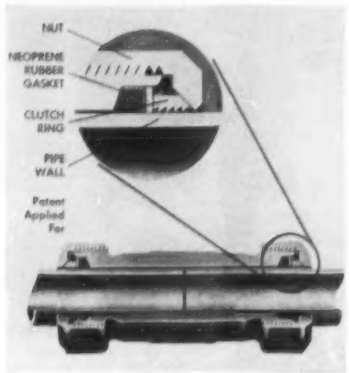
**Capacities rated on 20" load center.*
Special lifts engineered to your specifications.

WRITE TODAY FOR DETAILS!
HYDRAULICS DIVISION
CROWN CONTROLS Co., Inc. NEW BREMEN, OHIO

CC13

For more details circle NED-822 E7 on enclosed inquiry slip

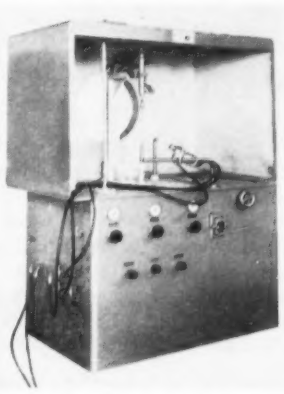
THREADLESS PIPE FITTINGS
join steel, wrought iron, plastic



Traction forces up to 3600 lb and hydrostatic pressures ranging from 450 psi on 2-in. pipe to 5000 psi on ½-in. pipe are handled by line of Telsco threadless fittings for steel, wrought iron or plastic pipe. They are installed without threading, grooving or flaring. A brass clutch ring with internal serrations grips the pipe wall. A neoprene gasket provides a permanent seal against leakage of gas or liquid, and resistance to vibration, contraction or expansion. Couplings, adapters, 90-degree elbows and tees are available, made of malleable iron to ASTM specifications with galvanized or Parkerized rustproof finishes. Made by **Texas Lawn Sprinkler Co.**, Telsco Fittings Div., 5424 Redfield St., Dallas, Tex.

For more details circle NED-823 E7 on enclosed inquiry slip

SPRAY DECORATING MACHINE
packaged unit includes mask washer and exhaust type spray booth

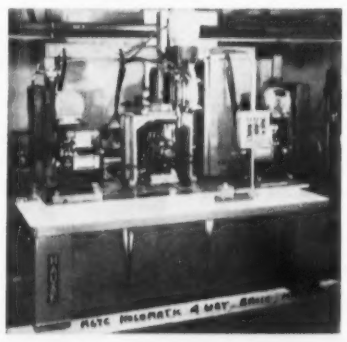


Delivered as packaged unit ready to be hooked up for production spray decorating, model SS10G-WB unit consists of spray decorating machine, mask washer and steel spray booth. Many different sizes and shapes of parts can be sprayed by rotation to assure even distribution of paint. Workholder frequently can act as a mask. On a part that requires an automatic hold-down, the mask can be incorporated in the top holder as well as the bottom.

Air powered, spindle speed is adjustable from 40 to 400 rpm. Painting operation is automatically timed, leaving operator's hands free for loading and unloading. The position of the two guns is adjustable, or thee or four guns can be used. In the mask washer, one mask is cleaned while another is being used. Cleaning action is by propeller agitation of solvent in closed tank. Made by **Conforming Matrix Corp.**, 338 Toledo Factories Bldg., Toledo 2, O.

For more details circle NED-824 E7 on enclosed inquiry slip

DRILLING-TAPPING MACHINE
for automatic or semiautomatic production of wide range of parts



This M67C Holomatic four-way basic machine is extremely versatile unit for drilling and tapping operations in horizontal and vertical planes. Flexibility is afforded by two-direction adjustment of horizontal spindle units and three - direction adjustability of vertical unit. Spindle speeds, rapid travel, feed rates and stroke lengths, and selection of one to four work stations are all adjustable.

Machine drills or taps as selected on control push-button station, and any combination of units can be selected to work in unison or in sequence. Two-direction bases on horizontal units simplify set-up from one part to another. The vertical unit is mounted on a three-direction sliding base which permits side, front and height adjustments. Panel type electric control system is easily modified for semi-automatic or full automatic sequence operation of units, parts positioning and holding devices. Made by **Hause Engineering**, 809 S. Pleasant St., Montpelier, O.

For more details circle NED-825 E7 on enclosed inquiry slip

this man is saving his company money...

MAINTAINING EQUIPMENT AT TOP EFFICIENCY

HYPRESSURE Jenny WILL SAVE YOUR COMPANY MONEY... Cleaning

He's cleaning a lift truck with Hypressure JENNY Steam Cleaner. He could be stripping away accumulated oil and grease, to inspect and repaint.

Or he may be cleaning it *before* repairs, so that the mechanic who works on it won't need to waste his time wiping and scraping greasy muck. But you may be sure he's saving his company money, for JENNY is the greatest time, labor and money saving shop tool any plant can own.

Hypressure JENNY cleans anything . . . anywhere . . . *10 times faster, and better* than solvent-brush-and-scraper methods. JENNY is powerful, portable, easy to use. With more than 40 models to choose from, there is one to suit your requirements. Your letter will bring you full particulars without obligation.

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HOMESTEAD VALVE MANUFACTURING COMPANY
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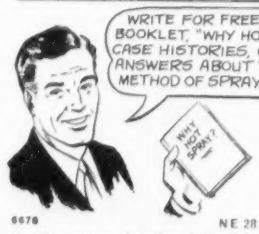
SPEE-FLO
HOT SPRAY MAGIC DOES IT AGAIN!

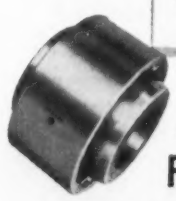


SPEE-FLO HOT SPRAY HEATERS

6678 NE 28 720 POLK AVE. • HOUSTON, TEXAS

For more details circle NED-827 E7 on enclosed inquiry slip

RUNS FASTER!
ASSEMBLES EASIER!
COSTS LESS! than other types of couplings



Sier-Bath FLEXIBLE GEAR COUPLINGS

Because they're smaller and lighter than conventional couplings, Sier-Bath Flexible Gear Couplings have lower moments of inertia. This means reduced bending stresses; less overheating and bearing wear and lack of resistance to motor drift. They run at higher rpm, have greater horsepower capacity! Chrome vanadium snap rings eliminate bolts, save time in coupling and uncoupling, eliminate "freeze-up" even after years of service. Best of all, costs average 21% below other brands.

Deliveries from stock on most types and sizes.
Send today for Catalog C-4

Simpler! only 7 parts
Smaller and Lighter!
⅔ Usual Size
½ Usual Weight

Sier-Bath
GEAR AND PUMP CO., INC.
9242 Hudson Blvd., North Bergen, N. J.
Founded 1905 Member A. G. M. A.

For more details circle NED-828 E7 on enclosed inquiry slip

NEW improved!

...for MILLIONS of cycles of AUTOMATIC OPERATION!

While still the same size overall (2-3/16" x 7/16") the new improved Clippard Miniature Air Cylinder incorporates a number of improvements, assuring you of MILLIONS of trouble-free cycles of operation!

Stroke, for example, has been increased from 3/8" to 1/2". Internal friction is reduced thru use of a special new self-lubricated synthetic piston ring. Cylinder case is rolled into knurled, grooved cylinder end at bottom so keyed shaft will never loosen or turn. Spring return has been improved and cylinder is cushioned internally to absorb shock. Will operate up to 800 cycles per minute.

For light AUTOMATIC or SEMI-AUTOMATIC work operations, you will find sturdy new Clippard MAC 385 Miniature Air Cylinders ideal, especially when used with our miniature Air Valves, Cam-follower Heads, Manifolds, Fittings and Accessories. Write, NOW, for power and static data, catalog sheet, complete specifications and modest prices!

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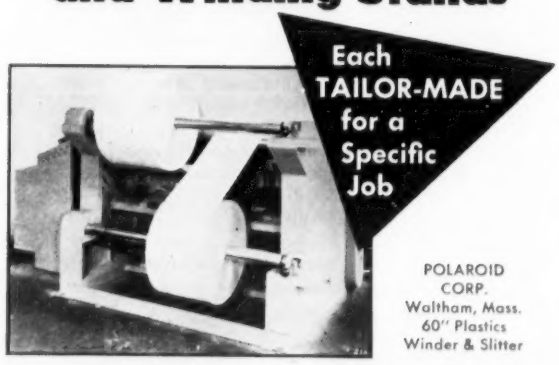
Clippard INSTRUMENT LABORATORY, INC.
7366-N Colerain Road, Cincinnati 24, Ohio

Manufacturers of R.F. Coils, Electronic Equipment, Miniature Pneumatic Devices

For more details circle NED-829 E7 on enclosed inquiry slip

Engineered Installations of HOBBS-ALQUIST WINDERS and Winding Stands



POLAROID CORP.
Waltham, Mass.
60" Plastics Winder & Slitter

Triple-Shaft Winder used by large fiber glass company

Every Hobbs-Alquist installation is specially engineered for a specific purpose. But you *always* get these features: Constant winding tension, automatically controlled by merely setting a dial; elimination of stretching and distortion; roll build-up of 10 to 1; ample power supplied by squirrel cage three-phase A.C. motor, flange mounted to a gear reducer. Have us engineer a complete installation to meet your winding requirements more efficiently and economically.

"Hobbs-Alquist Winders and Winding Engineering" brochure gives more details on modern automatic engineered winding. Write today — no obligation.

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Branch Offices and Representatives in Irvington, N.J. Chicago, Cleveland, Greenville, S.C. and Toronto, Can.

Winders • Hand & Power Shears • Slitters • Die Presses • Corner Cutters

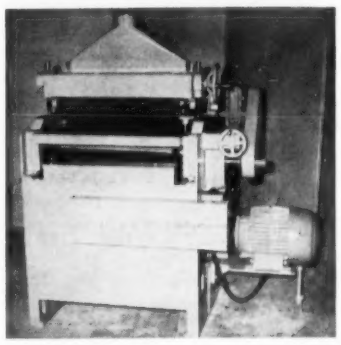
For more details circle NED-830 E7 on enclosed inquiry slip

MAGNETIC CHUCK CLAMP holds irregular-shaped workpieces

Nonmagnetic workpieces of practically any shape are held securely on a magnetic chuck by magnetic chuck clamps. On-center lever moves and locks the clamping plunger. Set consists of two clamping units and two solid back-up blocks. Small clamp measures 15/32 x 2¼ x 3¼ in. and has a ⅜-in. diameter hardened steel, serrated face plunger. Large model measures 31/32 x 3¼ x 4¼ in. and has a ⅝-in. diameter plunger with a tapped hole in the end for holding various attachments. Made by **Lemco, Inc.**, Dept. T-1, R. D. 2, Cogan Station, Pa.

For more details circle NED-831 E7 on enclosed inquiry slip

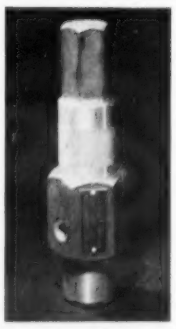
WOOD PANEL SANDER handles widths up to 50 in.



Coated abrasive belts are used for cutting down and polishing solid or veneer wood panels up to 50 in. wide by this Speed-Feed sander. Two machines can be used in tandem for production rough and finish sanding at speeds which are adjustable from 25 to 100 fpm. Spiral action feed wheel is kept clean by oscillating, rotating brush. Three widths use 93-in. long abrasive belts 24, 40 and 50 in. wide. Belt runs over a 14-in. diameter serrated rubber covered contact roll. Power is supplied by 7½, 15 or 25-hp motors. Made by **Sherrill Machinery Co.**, Box 56, Highway 21 S., Troutman, N. C.

For more details circle NED-832 E7 on enclosed inquiry slip

HYDRAULIC RELIEF VALVE ratings available up to 10,000 psi



Full capacity at 25 per cent overpressure is claimed for the series 44 hydraulic safety relief valve. Scream and chatter-free unit has inner stainless steel valve assembly that can be changed in the field. It is available in ¼, ⅜ and ½-in. sizes in aluminum up to 3500 psi and carbon and stainless steel up to 10,000 psi. Other alloys and chrome plating are also available. Uses include aircraft, machine tools and refrigeration. Made by **Fluid Mechanics Co.**, Dept. ND, Box 194, Bellaire, Tex.

For more details circle NED-833 E7 on enclosed inquiry slip

New Vacuum Pumping Savings

NRC Rotary Gas Ballast Pump Model 100M. Other units with capacities from 1¼ to 400 CFM, blank-offs down to 5×10^{-5} mm. Hg.

are reported by users of NRC Rotary Gas Ballast Mechanical Vacuum Pumps. These pumps maintain their original high efficiency even when handling water and other condensable vapors. They have proved in thousands of installations that they save money three ways:

1. **Lower First Cost**—because no oil reclaiming equipment is needed.
2. **Lower Operating Cost**—because cycles are shortened by ability of pumps to maintain top speed throughout cycle after cycle.
3. **Lower Maintenance Cost**—because labor and material costs for frequent oil changes are avoided.

Send today for 16 page Bulletin 29E.

NRC EQUIPMENT CORPORATION
SUBSIDIARY OF NATIONAL RESEARCH CORPORATION

For more details circle NED-834 E7 on enclosed inquiry slip

Wunderbar!

Wonderful is the word for the way MARK-TIME mechanical timing devices can be engineered into your product to control virtually any timing function. Many different types are available from stock; or Rhodes engineers stand ready to design and develop a MARK-TIME unit to fit your particular requirements. Delivery is no problem—when you do business with Rhodes—a company which for over twenty-five years has made "TIME" their business.

Send now for full details on how Rhodes can help you incorporate timing in your product.

Representatives in principal cities in the U.S.
Manufactured and sold in Canada by:
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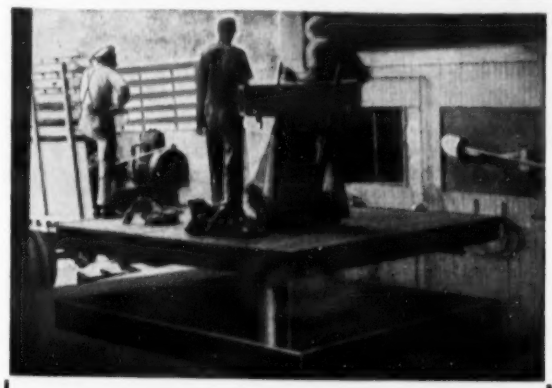
M. H. RHODES, INC.
79 BARTHOLOMEW AVE.
HARTFORD, CONNECTICUT

For more details circle NED-835 E7 on enclosed inquiry slip



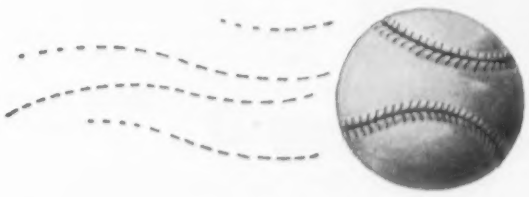
Comwel Platform Lifts

Speed Receiving and Delivery. Provide greater safety in handling heavy machinery, crates, barrels, castings, etc. Loads quickly raised from floor level to truck or dock height. Retracting safety skirt optional.

The COMWEL PLATFORM LIFT pays for itself many times over in saving time and manpower. Standard Model has capacity up to 10 tons. Other capacities available. Write or wire.

COMWEL COMPANY
2899 Norton Ave. Lynwood, Calif.

For more details circle NED-836 E7 on enclosed inquiry slip



AN IMPROVED CURVE!

In tube bending it's precision machinery that improves the curve and for a perfect curve every time you need a Leonard BENDMASTER tube bending machine.

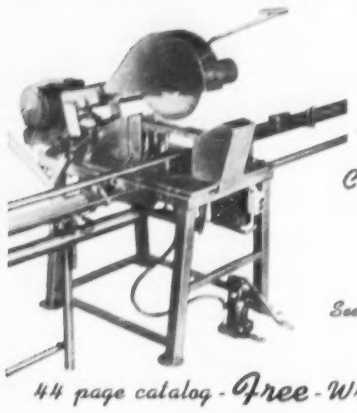
LEONARD PRECISION PRODUCTS CO.
9200 BOLSA AVE., SANTA ANA, CALIF.

Manufacturers of Tube bending and fabricating machines, tools, dies and special machinery

For more details circle NED-837 E7 on enclosed inquiry slip

Does Your Shop Cut?
These things?

LOOLF Etc.



Fast —
Smooth —
Clean Cuts

See the difference

44 page catalog - Free - Write for it!
It describes
Wallace Cut-Machining Units
8 types - wide capacity range

Wallace Supplies Mfg. Co.
1312 Wolfram Street Chicago 13, Illinois

▲ For more details circle NED-839 E7 on enclosed inquiry slip ▲

The truck with
"boarding house reach"
INCREASES WAREHOUSE CAPACITY
as much as 50%

RAYMOND

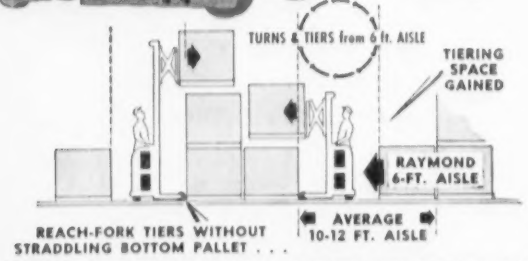
Reach-Fork
TRADE MARK

ELECTRIC
TIERING TRUCK

2000 or 3000 lb.
capacities

Why build or lease additional storage when there's space to be had right in your present warehouse? The RAYMOND Reach-Fork eliminates wasteful 10 to 12-ft. aisles . . . permits you to tier in space-saving aisles as narrow as 6 ft. No special racks or pallets required because it operates from the aisle, without straddling bottom pallet. Forks extend to pick up or deposit your load . . . retract in seconds. Ideal for loading or unloading. Stacks pallets closely on racks, in truck trailers, boxcars, bulk storage areas. Safe on elevators and low-capacity floors.

Mail coupon today



The RAYMOND CORPORATION
4132 Madison St., Greene, N.Y.
Please send Bulletin on Raymond Reach-Fork. I am interested in:
☐ 2,000 lb. cap. Reach-Fork
☐ 3,000 lb. cap. Reach-Fork.
☐ Have a representative call.

NAME TITLE
COMPANY
STREET
CITY STATE

▲ For more details circle NED-840 E7 on enclosed inquiry slip ▲

New Literature and Catalogs

Plate & Sheet Metal Machines

Niagara Machine & Tool Works—40-page illustrated booklet 203 summarizes data on Niagara power operated machines for plate and sheet metal work. Basic specification charts provide quick reference to all principal models. References are made to specific bulletins for more information.

▲ For more details circle NED-841 E7 on enclosed inquiry slip ▲

Magnetic Drives

Whitney Chain Co.—Design, features, operating and performance curves, output torque ratings, dimensions and a selection chart are contained in 6-page illustrated folder W-T 1-57 on Tormag magnetic drives. Self-contained permanent magnet units fit new NEMA frame specifications, and capacities range from 1 to 15 hp.

▲ For more details circle NED-842 E7 on enclosed inquiry slip ▲

Hard-Facing Electrodes

Sight Feed Generator Co.—Six all-position hard-facing and manganese electrodes covered in 20-page illustrated manual "Rexarc Engineered Toughness" are suited for over 95 per cent of applications in mining, quarrying, crushing and similar industries. Application procedures are shown and a selection chart for particular applications is included.

▲ For more details circle NED-843 E7 on enclosed inquiry slip ▲

Reversing Transmission

Snow-Nabstedt Gear Corp.—Model 5201 reversing transmission described in illustrated 4-page folder is a small, single unit for industrial equipment which combines forward, neutral, reverse and speed reduction. It transmits up to 28 hp and reverses under full load. Engineering data are included.

▲ For more details circle NED-844 E7 on enclosed inquiry slip ▲

Solenoids & Coils

Anderson Controls, Inc.—Solenoids for low and medium power applications and bobbin, layer wound, Anderox resin molded, metal enclosed, form, universal and space wound coils are described and illustrated in 8-page catalog. Special electric components are also covered.

▲ For more details circle NED-845 E7 on enclosed inquiry slip ▲

Electrical Test Equipment

Simpson Electric Co.—Listings of test equipment for servicing television, radio and industrial electrical equipment, as well as refrigeration, air conditioning, appliances and heating equipment are found in 6-page bulletin 2058. Specifications are given.

▲ For more details circle NED-846 E7 on enclosed inquiry slip ▲

Materials Handling Equipment

Elizabeth Iron Works, Inc.—"One man" bridge, refrigerator car and hand truck ramps are among materials handling equipment described and illustrated in 6-page folder. Also covered are truck ramps, pallet stackers, pallets and pallet conversion kits. Included are specifications for all units.

▲ For more details circle NED-847 E7 on enclosed inquiry slip ▲

Two-Diameter Drilling

Mohawk Tools, Inc.—Advantages of subland two-diameter drilling as opposed to step drill two-diameter drilling are outlined in 8-page illustrated bulletin. Steps in manufacturing both types of drills, their maintenance requirements and contrasting production records and savings are presented.

▲ For more details circle NED-848 E7 on enclosed inquiry slip ▲

Floated Rate Gyros

Norden-Ketay Corp.—Floated rate gyros for airborne and control telemetering systems are subject of 4-page illustrated bulletin 419. Cut-away view of a unit and general, pickoff and motor characteristics are included.

▲ For more details circle NED-849 E7 on enclosed inquiry slip ▲

Abrasive Belts

Carborundum Co.—M-A-P, or Maximum Automation Potential service offered by this company predicts performance of abrasive belts on any metal removal operation (except snagging) in advance of any expenditure for materials or equipment. The free engineering service is described in detail in 8-page booklet.

▲ For more details circle NED-850 E7 on enclosed inquiry slip ▲

Does Your Shop Bend? Cut?
These things

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A Manual Of Processes
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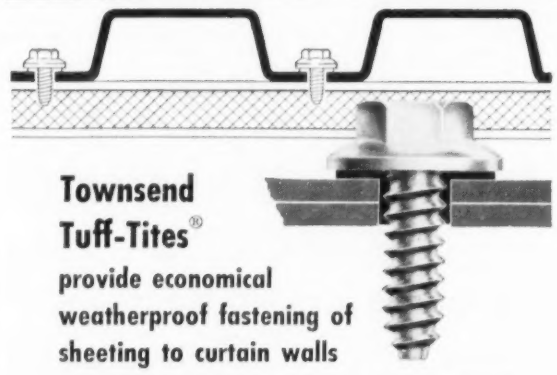


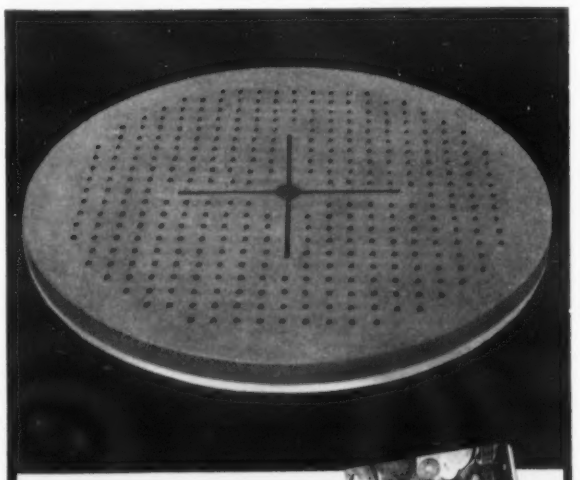
Townsend
Tuff-Tites®
provide economical
weatherproof fastening of
sheeting to curtain walls

Townsend Tuff-Tite fasteners provide weatherproof fastening of exterior sheeting to insulated panels used in curtain wall and roof construction. Leakage is eliminated by the Tuff-Tite's integral undercut hex head washer construction and by the pre-assembled conical shaped neoprene washers, which fill the holes. Available in both stainless and carbon steels in a number of types and lengths, they are equally suitable for crown or valley fastening.

For more information on these economical, weatherproof fasteners, write to Townsend Company, P.O. Box 237-G, New Brighton, Pa., asking for Bulletin TL-107a.

Townsend Company
NEW BRIGHTON, PA.

▲ For more details circle NED-852 E7 on enclosed inquiry slip ▲



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selector guide
for abrasive discs
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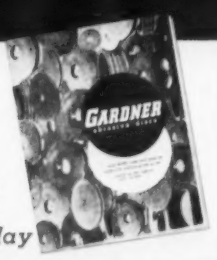
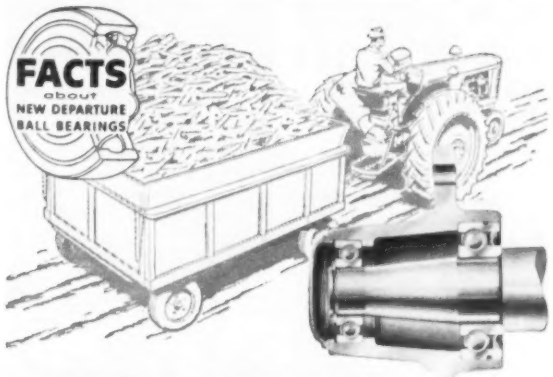


GARDNER MACHINE COMPANY
abrasive discs
460 Gardner St.
Beloit, Wisconsin

▲ For more details circle NED-853 E7 on enclosed inquiry slip ▲



EASIEST HAULING
LEAST MAINTENANCE

Heavy wagon or implement wheels on New Departure ball bearings give the farmer the easiest, freest-rolling mounting. They require *no adjustments, no periodic greasing!* The mount is simple—no adjusting nut, no spindle threads, no separate seal to fit!

The ball bearings, thoroughly proved in high-production automotive wheels and other applications, are pressed in the hub. The hub is slipped over the spindle and retained by a snap ring—*fast, economical, simple!* Your New Departure Sales Engineer will gladly give you complete details.

NEW DEPARTURE
DIVISION OF GENERAL MOTORS • BRISTOL, CONN.

For more details circle NED-854 E7 on enclosed inquiry slip

light-weight AIRETOOL air-motor GRINDER

speeds up any portable grinding or snagging operation.

For power . . . speed and economical operation you can't beat this new Airetool air-motor grinder. Handy for cleaning up welds, rough casting, deburring or any other grinding job. Weighs only 12 lbs. for easy handling yet built for rugged service. Controlled speed to 6000 RPM makes any metal removal fast and safe. Abrasive Belt attachment and Right Angle Head model also available. Write for Bulletin No. 61.

AIRETOOL
MANUFACTURING COMPANY
SPRINGFIELD, OHIO

BRANCH OFFICES: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge
REPRESENTATIVES: in principal cities of U.S.A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii
EUROPEAN PLANT: Vlaardingen, The Netherlands
CANADIAN PLANT: 37 Spalding Drive, Brantford, Ontario

For more details circle NED-855 E7 on enclosed inquiry slip

SOLVE **"TOUGH"** PARTS PROBLEMS WITH *Colonial's* **SILICONE RUBBER**

There's practically no end to the usefulness of silicone rubber as a material for making rubber parts. It won't melt or harden at 500 deg. F., won't conduct electricity, is not affected by sun, water or weather, and even dry ice can't freeze it. These and many other desirable properties which can be obtained through Colonial's expert compounding, make silicone rubber the most likely material for solving your "tough" parts problems.

Whether you are designing new products, or improving existing ones, contact Colonial Rubber Company for details on the advantages of fabricating more efficiently and *profitably* with silicone rubber. Our service is complete . . . you can call on us for any one or all three of the following:

EXPERT COMPOUNDING
ACCURATE PRODUCTION
QUICK DELIVERY

1967

COLONIAL RUBBER CO.
RAVENNA, OHIO

For more details circle NED-856 E7 on enclosed inquiry slip

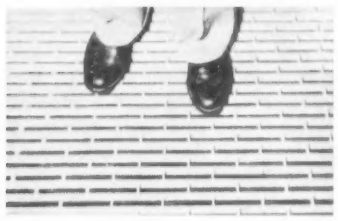
New Processes and Materials

STEEL HARDENING COMPOUND often increases tensile strength

Hardening of a wide variety of steels for production and maintenance tools, as well as the hardening of production pieces, results from use of Chromelloy steel hardening compound. It hardens from the surface inward, often bringing about an increase in tensile strength. Small tools or parts are heated in a forge or flame, dipped in Chromelloy powder, then reheated for about 2 minutes and quenched. One hour of pack hardening with the compound produces a 1/32-in. case of 65-68 Rockwell C using cold rolled steel. A 2-lb introductory package is available for $15. Made by **General Power Services, Inc.,** U. S. Metallurgical Laboratories Div., 383 Fourth Ave., New York 16, N. Y.

For more details circle NED-857 E7 on enclosed inquiry slip

ALUMINUM GRATING has 79 per cent clear opening



Advantages of rectangular opening and riveted gratings are combined in RR aluminum grating designed for severe load conditions. Grating remains structurally rigid regardless of cutouts located in any part of the panel. With 79 per cent clear opening, it accumulates a minimum of dirt, oil or scum in the corners. Grating meets Navy specifications as to design and strength. Made by **Klemp Metal Grating Corp.,** 6608 S. Melvina Ave., Chicago 38, Ill.

For more details circle NED-858 E7 on enclosed inquiry slip

CAULKING-SEALING COMPOUND for curtain and panel wall use

Sonolastic compound is designed for sealing and caulking curtain and panel walls, as well as for other caulking and sealing purposes and as gasket or filler. It is a liquid made up of sulfurized rubber polymers furnished with an activating agent which cures the liquid to a rubber-like substance after it is introduced into the joint to be sealed. It becomes a resilient part of the joint structure for the life of the building. Compound is nonshrinkable and impervious to the effects of air, moisture, salt spray and sunlight. It possesses cold flow characteristics and complies to distortions of panels caused by extremes of temperatures. Colors are tan, gray, black and aluminum. Made by **L. Sonneborn Sons, Inc.,** Building Products Div., Dept. P-4, 404 Fourth Ave., New York 16, N. Y.

For more details circle NED-859 E7 on enclosed inquiry slip

INDUSTRIAL PHOTOGRAPHIC FILMS have size-stable polystyrene base

Five special films introduced for business and industrial photographic departments feature polystyrene bases that resist size changes during storage and processing. Kodalith Ortho P.B. film, type 3, with a 3:1 ratio in superior size-holding characteristics and increased tolerances in handling, comes in 0.005 and 0.010-in. base thicknesses. Kodak Autopositive P.B. film will make possible wider variety of photo-template and engineering combinations, however complex the originals might be. Kodak Commercial and Separation Negative P.B. films are intended for color reproduction work in graphic arts. Made by **Eastman Kodak Co.,** Dept. E, 343 State St., Rochester 4, N. Y.

For more details circle NED-860 E7 on enclosed inquiry slip

HOW?

How do you get the *best* protection against fire? By selecting from the complete Kidde line of portable fire extinguishers . . . carbon dioxide, dry chemical, soda-acid, water, foam, and vaporizing liquid.

How do you get the *best* fire extinguisher servicing? From your Kidde recharging service station. You'll find it listed in the yellow pages of your classified telephone directory, or write Kidde for information.

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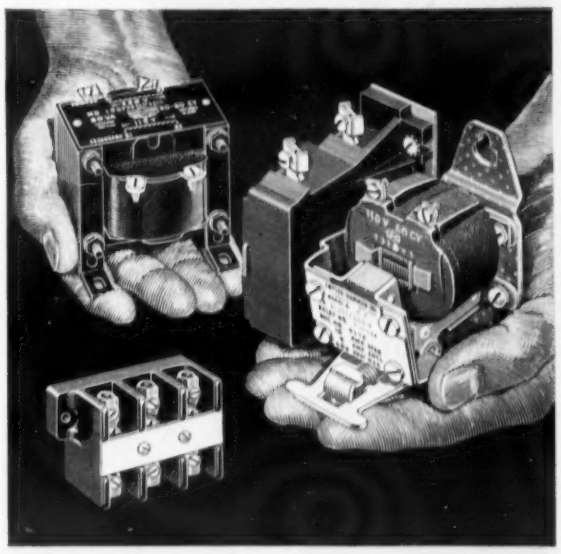
Kidde

Walter Kidde & Company, Inc.
524 Main St., Belleville 9, N. J.

For more details circle NED-861 E7 on enclosed inquiry slip

WHAT'S NEW IN MOTOR CONTROL?



COMPONENTS FOR MODERN CONTROL PANELS AND BETTER MACHINE PERFORMANCE

Leading control panel designers have standardized on C-H components for simplified-compact control panel designs. Regardless of control function there is a dependable Cutler-Hammer Component for the job . . . convertible multi-circuit relays, contactors and starters; accurate overload relays, timers, pressure and limit switches; special control-duty transformers; world's smallest oil-tight heavy duty pushbuttons, indicating lights and selector switches; plus the finest electrical interlocks, fuse receivers, terminal boards, brakes, solenoids, disconnect switches with self aligning handles. A quality machine requires quality control . . . Cutler-Hammer Control. For complete information write on your company letterhead for the "Panel Builders Handbook" Pub. EE-120.
CUTLER-HAMMER, Inc., 1377 St. Paul Ave., Milwaukee 1, Wisconsin.

CUTLER-HAMMER
MOTOR CONTROL
C-H

GET IT FIRST IN CUTLER-HAMMER

For more details circle NED-862 E7 on enclosed inquiry slip

Magna-tip® MAGNETIC SHANKS

For Driving Hex Head Sheet Metal and Self-Tapping Screws

An Exclusive, Patented Magna Design

• These shanks, used with low-cost Magna sockets, replace standard magnetic sockets and quickly pay for themselves by eliminating the replacement of magnets.

Magnetic member, which projects into clearance hole in socket, has a protective tip of hardened steel and is spring-loaded to retract so that driving pressure is applied against shoulder in socket instead of on the magnetic tip. Socket... indicated in outline...is held on shank by a locknut with left hand thread. Available for all power drivers.

U.S. PATENTS 2,624,223 2,677,294

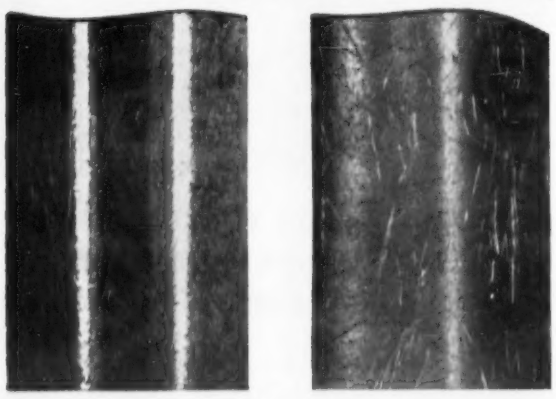
WRITE Dept. for manual on the complete line of Magnetic Bit Holders, Finders, Sockets and Hand Screwdrivers.

MAGNA DRIVER CORP. 779 WASHINGTON ST. BUFFALO, N. Y.

▲ For more details circle NED-863 E7 on enclosed inquiry slip ▲

Only structoglas® "A" **GLAZING**

HAS BEEN PROVEN SUPERIOR BY OUTDOOR EXPOSURE TESTS



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COMPETITIVE PANEL made from a good light-stabilized standard resin.

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STRUCTOGLAS 4307 West 35th St. • Cleveland 9, Ohio

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7349-EM

▲ For more details circle NED-864 E7 on enclosed inquiry slip ▲

New Literature & Catalogs

Purifiers, Mist Extractors, Traps & Strainers

V. D. Anderson Co.—Principal applications of Anderson purifiers as itemized in 8-page bulletin 801 are for preventing mist carry-over from process vessels; removing compressor oil and condensate from steam, air and gas vapor; separating solids and liquids from natural gas; and eliminating condensate and oil from steam systems. Data are included on improved internal purifiers.

▲ For more details circle NED-865 E7 on enclosed inquiry slip ▲

Sanitary & Corrosion-Resistant Pumps

Waukesha Foundry Co.—Application of positive displacement sanitary and corrosion-resistant pumps in the dairy, food, canning, beverage, brewing and chemical industries is discussed in 64-page catalog. Details on how to estimate pump capacity, flow, drives and speeds, together with full operating and servicing instructions are also included.

▲ For more details circle NED-866 E7 on enclosed inquiry slip ▲

Vacuum Cleaning Systems

U. S. Hoffman Machinery Corp.—Industrial vacuum cleaning systems for removal of all sorts of dust are subject of 8-page brochure AA-100. Savings and advantages of the systems are pointed up. Also covered are engineering services available to those with plant problems of sanitation, quality control and production costs.

▲ For more details circle NED-867 E7 on enclosed inquiry slip ▲

Demountable Rubber-Tired Wheels

Nutting Truck & Caster Co.—Why Nutting rubber-tired wheels are well suited for floor truck, trailer and caster applications is pointed out in 4-page bulletin D. Specifications are given on regular, medium, heavy and extra heavy duty types ranging in capacity from 250 through 1800 lb per wheel. Diameters from 4 through 18 in. are offered.

▲ For more details circle NED-868 E7 on enclosed inquiry slip ▲

Resistors & Rheostats

Model Engineering & Mfg. Inc., Tru-Ohm Products Div.—20-page catalog "Resistors and Rheostats" provides complete information on fixed enameled, adjustable enameled, oval, vitreous axial, Tru-Rib, Tru-Ohm caged, Printed Circular and the new Blue X-60 series resistors. Data are provided on dustproof, caged and 360-degree rheostats as well.

▲ For more details circle NED-869 E7 on enclosed inquiry slip ▲

Aluminum Mill Products

Reynolds Metals Co.—Intended as a reference guide, 18-page condensed mill products catalog includes information on industrial foil, plus revised weight charts for wrought and casting alloys. Selection guides for wrought aluminum alloys in sheet, plate and foil, wire rod and bar, tubing and pipe, extruded and structural shapes and for casting alloys are provided.

▲ For more details circle NED-870 E7 on enclosed inquiry slip ▲

KUTMORE ADJUSTABLE HOLLOW MILLS

NEW! available NOW!

The Midget Floating Holder Hollow Mill, flange type, with micrometric adjustment, designed to permit easy compensation for any spindle misalignment.

WRITE TODAY FOR CATALOG 20 NE

It shows complete line of adjustable hollow mills. Our Engineering Dept. is at your disposal for special requirements.

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1625 CLINTON AVE. NO.
ROCHESTER 5, N. Y.

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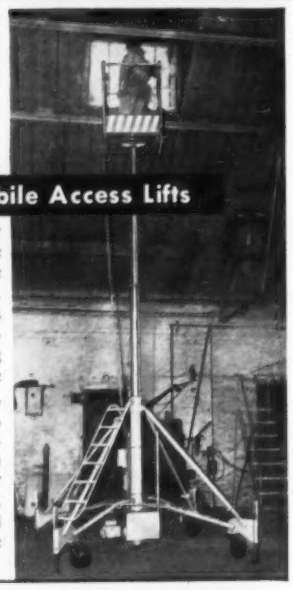
NEW METHODS FOR REACHING HIGH PLACES *SAFELY...*

Ballymore Mobile Access Lifts



For working easily and safely at levels up to 40 feet above the floor, there's nothing like Ballymore Mobile Access Lifts. These power platform lifts maintain a steady, level position at any location by using levelizing jacks. They are readily portable. When folded, pass through narrow openings, into and out of elevators.

A push-button switch on the guardrail gives the user complete control of the lift. They can be used indoors and out for countless jobs. Write for complete details today.

HYDRAULIC LIFT WORK PLATFORM...

Designed to permit in or outdoor work at levels between 7 and 20 feet. Accommodates up to 3 men. Portable . . . flexible . . . safe.

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. . . to improve product finishing
. . . reduce maintenance costs

Send for this brochure and list of leading manufacturers of paints formulated with Dow Corning Silicones.

first in silicones

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Dow Corning Corporation
MIDLAND, MICHIGAN

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HI-AMP®

has been FIRST with every important advancement made in

ELECTRODE HOLDERS

—no wonder then, that thousands of actual users have switched to HI-AMP — they quickly discovered, through experience, that you can't beat a HI-AMP Electrode Holder, regardless of model, when it comes right down to practicability, performance and economy in maintenance.

When are you going to switch? Just ask any Welding Supply Dealer anywhere for PROOF of the above statement.

LENCO, INC.
(Formerly Wagner Mfg. Co. Inc.)
JACKSON, MISSOURI

Weld with HI-AMP

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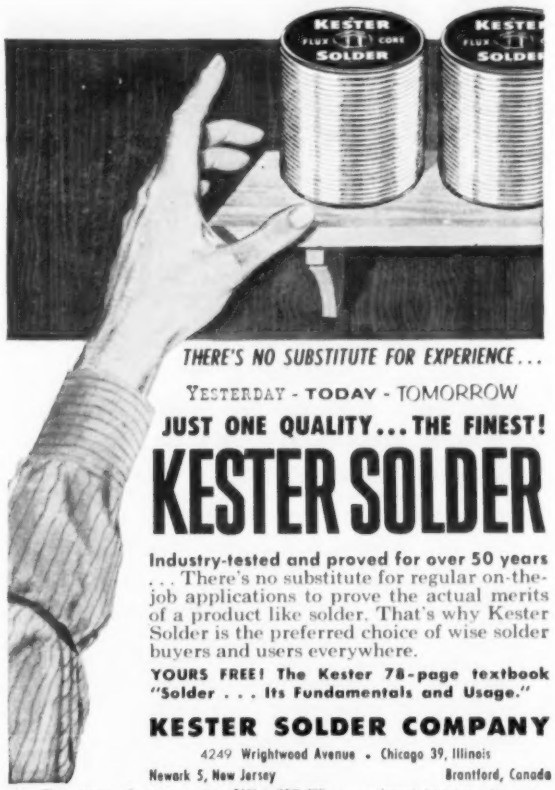

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KESTER SOLDER

Industry-tested and proved for over 50 years . . . There's no substitute for regular on-the-job applications to prove the actual merits of a product like solder. That's why Kester Solder is the preferred choice of wise solder buyers and users everywhere.

YOURS FREE! The Kester 78-page textbook "Solder . . . Its Fundamentals and Usage."

KESTER SOLDER COMPANY

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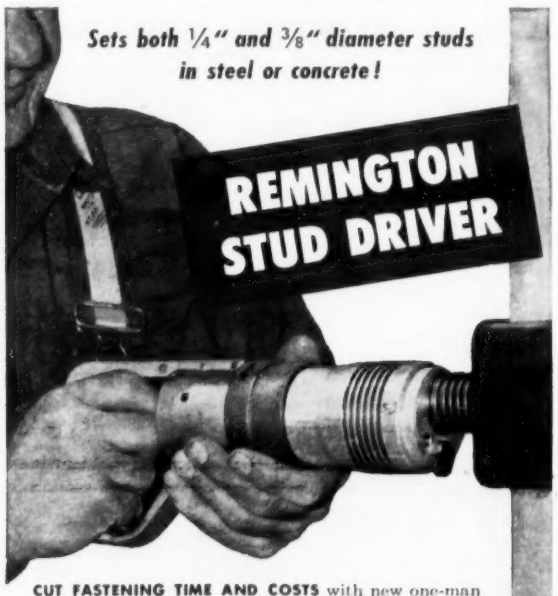
Newark 5, New Jersey Brantford, Canada

For more details circle NED-875 E7 on enclosed inquiry slip

Sets both 1/4" and 3/8" diameter studs in steel or concrete!



CUT FASTENING TIME AND COSTS with new one-man tool that sets both 1/4" and 3/8" diameter studs at speeds up to 6 a minute. Securely anchors wood sections and steel fixtures to steel and concrete. Blank cartridge type Power-Loads—no wires or cable. No pre-drilling needed. Mail reader service card for copy of informative booklet.

Remington DU PONT

Industrial Sales Div. NED-5 Remington Arms Co. Inc. Bridgeport 2, Conn.

For more details circle NED-876 E7 on enclosed inquiry slip

Gary WELDED GRATING

TAILOR MADE INSTALLATIONS

- Cost Less
- Look Better
- Give Better Service...

Eliminate expensive field alterations, piecing together and wasted material and labor by specifying Gary Welded Grating. Designed for specific loads and deflections, Gary grating is as easy to specify as it is to install. Gives maximum ventilation and illumination and long-maintenance-free service. Write for full information . . . ask for Bulletin N-57.

ROCKWELL SPRING & AXLE CO.
Standard Steel Spring Division
4017 EAST SEVENTH AVE., GARY, INDIANA

For more details circle NED-877 E7 on enclosed inquiry slip

New Processes & Materials

METAL-RESIN COMPOUND
repairs all metals, other surfaces

Repairs to machinery, pipe lines, valves, boilers, tanks, castings, radiators and holes, dents or tears in metal and other materials can be made with Plasti-Metal, a metal and resinous compound. It can be combined with glass cloth or wire screen for reinforcement and cures hard in 10 minutes. Use on nuts and bolts prevents them from working loose. Product resists chemicals, oil, gasoline and water, plus heat to 225° F. Joining metal to glass, concrete, wood or other metal is also possible. It can be ground, drilled, sanded and painted. Made by **Plant Maintenance, Inc.,** 625 Green Rd., Cleveland 21, O.

For more details circle NED-878 E7 on enclosed inquiry slip

PLASTIC FLOOR SURFACING
impervious to acids and alkalies

Adhering to existing concrete, bricks, steel, wood, mastic, glass and other surfaces, Certified Thermo-Setting Plastic floor surfacing is easy to apply and clean, and stands up well under heavy traffic. It is resistant to oils, greases, solvents, all organic acids, juices, most inorganic acids and alkalies. A unit consisting of liquid setting agent, liquid resin and a dry chemically-inert graded aggregate covers about 20 sq ft 1/4-in. thick with medium-graded aggregate and about 35 sq ft 1/8-in. thick with fine-graded aggregate. Three components are separately packed in a compartmented 5-gal pail. Application can be indoors or outdoors to a clean and dry surface at above 50° F. Floor is dry in 6 hours and cured in 24 hours or less. Made by **United Laboratories, Inc.,** 16804 Euclid Ave., Cleveland 12, O.

For more details circle NED-879 E7 on enclosed inquiry slip

SALT TABLETS
in 500 and 1000-tablet dispensers

Designed for indoors or outdoor all-weather use are 500 and 1000-tablet size dispensers containing Pep-Up impregnated and enteric type salt tablets. "Throw-away" plastic dispensers are quickly installed and replaced when mounted on post, wall, water-keg or vehicle. Tablets aid personnel in maintaining full physical efficiency on hot jobs and during hot weather. Made by **United States Safety Service Co.,** Dept. NED, 1215 McGee St., Kansas City 6, Mo.

For more details circle NED-880 E7 on enclosed inquiry slip

Mail Cart!

Put efficiency in your mail operation! This double-deck polished aluminum mail cart by Chesley lets your mail department categorize incoming mail for quick, error-free delivery. Lower basket for out-going mail. Both baskets are removable.

Write for free brochure — or, better still — order today!

MODEL LS-2 (Legal Size) 26 1/2" L x 19" W x 29 1/2" H
(File Folders Not Included)
Shipping Weight — 33 lbs. $45.00 F.O.B. DETROIT

CI CHESLEY INDUSTRIES
Write Dept. H
7731 LYNDON STREET
DETROIT 38, MICHIGAN

For more details circle NED-881 E7 on enclosed inquiry slip

HANNA
Fluid Power CYLINDERS give you
POWER
FOR PRODUCTION

■ Hanna Pneumatic and Hydraulic Cylinder power helps cut costs and increases production by replacing manual operations with perfectly controlled power. Hanna Fluid Power Cylinders are available for air operation up to 250 psi., hydraulic up to 750 psi., in a variety of sizes and mounting styles. WRITE FOR CATALOG 750B

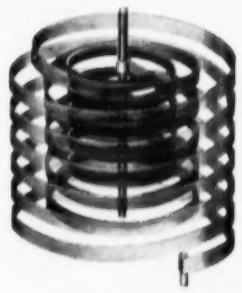
HANNA ENGINEERING WORKS

HYDRAULIC AND PNEUMATIC EQUIPMENT..CYLINDERS..VALVES

1759 Elston Avenue, Chicago 22, Illinois

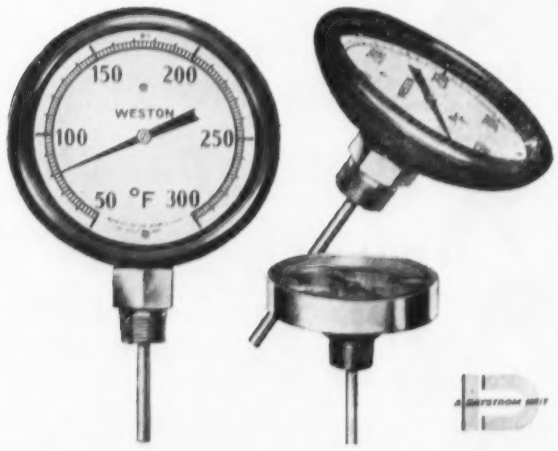
For more details circle NED-882 E7 on enclosed inquiry slip

THE
REVERSE TWIST



MAKES A BIG DIFFERENCE!

You can readily picture the difference. In the Weston industrial bi-metal thermometer the sensitive element is a *multiple* helix rather than the conventional single one. Therefore a longer bi-metal strip can be used, yet it can be wound into a shorter element with greater rigidity and stability, better repeatability, fast thermal response and the ability to withstand high overloads. In service this means sustained accuracy, over longer periods, at far lower over-all costs. Available in types, sizes and ranges for industrial applications and all built-in needs. Catalog T-13-K gives the complete story. Write . . . WESTON Electrical Instrument Corp., 617 Frelinghuysen Avenue, Newark 5, N. J.



WESTON
Bimetal
THERMOMETERS

For more details circle NED-883 E7 on enclosed inquiry slip

Design Simplicity of Hartzell Roof Ventilators Means . . .

Hartzell Vertijet Roof Ventilator

Hartzell Reversible Roof Ventilator (moves air in either direction)

. . . High Efficiency

Hartzell roof ventilators expel large volumes of heat, smoke or fumes quickly and efficiently because simplified design reduces obstructions to air flow.

. . . Low Initial Cost

The elimination of complications in design and construction produces savings in production costs which are passed along to you.

. . . Minimum Maintenance

By minimizing the number of moving parts, Hartzell reduces the number of things which will demand attention. Under normal operating conditions, periodic motor lubrication should be the only maintenance required.

Bulletin A-112A contains complete specifications and performance data on the models shown as well as on several other Hartzell roof ventilators. Ask your Hartzell field engineer or write for your free copy . . . do it today.

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
606 Thomas Blvd., Piqua, Ohio
ENGINEERING OFFICES IN PRINCIPAL CITIES

For more details circle NED-889 E7 on enclosed inquiry slip

5700 lb. steel crankshaft on two 3" wide Liftex Nylon Slings at Beloit plant, Fairbanks, Morse & Co.

Strong! No Rivets! No Metal!

Lifts soft or highly finished materials without scratching. Chemically treated to resist grease, abrasion and many chemicals and solvents. Stock sizes to lift up to 13,500 pounds, special sizes made to order. All with safety factor of 5.

WRITE TODAY FOR BULLETIN R

THE CALDWELL COMPANY, INC.
1123 FOURTH AVE., ROCKFORD, ILL.

For more details circle NED-890 E7 on enclosed inquiry slip

if you use small gears & pinions

IT WILL PAY YOU TO CHECK

GRC'S STOCK SHEET

Before you order gears or pinions, see GRC's new Stock Sheet. All items listed are cast for stock dies, individually or in various combinations of gears, pinions, hubs, shafts, etc. Holes, shafts, spacers, shoulders, etc., are made to your exact specifications at no extra tool charge quantity permitting. Maximum O.D. about 1½", with 1/6" face width; wider faces for smaller diameters.

Unusual shapes, extra precise requirements available on special order.

Write Today for New Stock Sheet
SEND SPECIFICATIONS FOR PROMPT QUOTATION, 100,000 TO MILLIONS
See us at BOOTH 421
Design Engineering Show May 20-23, N. Y.

GRIES REPRODUCER CORP.
World's Foremost Producer of Small Die Castings
143 Beechwood Ave., New Rochelle, N. Y. • NEw Rochelle 3-8600

For more details circle NED-891 E7 on enclosed inquiry slip

New Literature & Catalogs

Flexible Air Duct

Wiremold Co.—Various types of flexible air duct used for air conditioning, fume and dust exhaust, and corrosive fumes are covered in 4-page circular 591. Ducting will bend 90 to 180 degrees without kinking and is easy to cut, fit and install.

For more details circle NED-892 E7 on enclosed inquiry slip

Speed Reducers

Falk Corp.—Information on concentric shaft and right angle speed reducers provided in 24-page bulletin 1105 covers horsepower and torque ratings, dimensions, overhung load and thrust capacties and applications. Reducers are made for applications up to 140 hp or up to 72,000 lb-in. output torque, and in wide range of ratios between 1.49:1 and 1459:1.

For more details circle NED-893 E7 on enclosed inquiry slip

Production Drill Units

Hause Engineering—Over 40 pages of photos, dimensional drawings, specifications and other pertinent data relative to Holomatic drill units for automatic high production machines is provided by revised plastic bound catalog. Units perform drilling, tapping, threading, spot facing, reaming, chamfering and hollow milling operations. Multiple drill head and special drilling machines are shown.

For more details circle NED-894 E7 on enclosed inquiry slip

Rotary Mechanical Seals

Durametallic Corp.—Aid in selecting the right type of mechanical seal to meet specific operating condition can be found in 16-page Dura Seal catalog 480 on company's line of rotary mechanical seals. Cut-away views show stuffing box installation details. Units are made to withstand up to 800° F and pressures up to 600 psi.

For more details circle NED-895 E7 on enclosed inquiry slip

Turret Drilling Technique

Howe & Fant, Inc.—"Drama in Drilling" is title of 24-page brochure which effectively illustrates nine case history applications of turret drilling. These cover single hole location, straight line hole patterns, single bolt circles, concentric bolt circles and random hole patterns in one plane and in many different planes. Text identifies material being worked, lists tooling required and operations performed.

For more details circle NED-896 E7 on enclosed inquiry slip

Chemicals Index

Reilly Tar & Chemical Corp.—1957 edition of the Reilly Chemical Index lists alphabetically and according to classes all chemicals produced by the company and features information on eight new compounds developed in 1956. Many of these chemicals are available in commercial quantities.

For more details circle NED-897 E7 on enclosed inquiry slip

Electronic Equipment Facilities

Laboratory for Electronics, Inc.—Engineering and manufacturing talents and facilities of this company are pictured and described in 12-page brochure. Company manufactures electronic test equipment component parts for electronic industries, custom-manufactures complex electronic devices and conducts electronic research and development.

For more details circle NED-898 E7 on enclosed inquiry slip

Industrial Motion Pictures

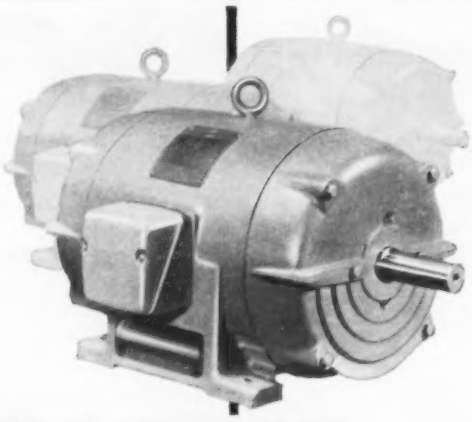
"Industrial Motion Pictures" is title of 76-page booklet which gives the industrial photographer the information he needs to produce low cost films, plus complete data on all 16-mm Kodak motion picture films. Portions are devoted to equipment and procedures, pictorial continuity, lighting, special effects and the industrial application of motion pictures. Price is 50 cents. Write to Eastman Kodak Co., 343 State St., Rochester 4, N. Y.

For more details circle NED-899 E7 on enclosed inquiry slip

Multiple V-Belt Drive Data

Raybestos-Manhattan, Inc., Manhattan Rubber Div. —112-page engineering data book for the selection and design of Poly-V belt drives contains many charts, tables and diagrams along with complete specifications for all drive sizes. Both theory and practical application of the R/M Poly-V drive are covered, as are numerous case histories. Drive is a single endless belt with parallel V-ribs molded lengthwise around inner circumference, designed to mate with matching grooved sheaves.

For more details circle NED-900 E7 on enclosed inquiry slip



What motor type does your job require?

Louis Allis offers them all

This complete line includes drip-, splash- and explosion-proof motors, gear motors, and single- and multi-speed types in sizes up to 1500 hp. Cast-iron housings, locked bearing construction, corrosion-resistant insulation — Louis Allis motors and drives give you all these long-life, low-cost benefits. They're balanced for quiet operation . . . minimum power and maintenance cost. For particulars, write The Louis Allis Co., 436 East Stewart Street, Milwaukee 1, Wisconsin.

LOUIS ALLIS

For more details circle NED-901 E7 on enclosed inquiry slip

GET THE FACTS ABOUT

ABART GEAR and MACHINE CO.
Mfrs. of Gears and Speed Reducers
4831 WEST 16th STREET • CHICAGO 50, ILLINOIS

For more details circle NED-902 E7 on enclosed inquiry slip

LPG-ELECTRIC!

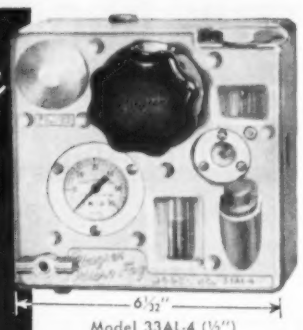
NEW BANTAM MODEL W12 POWER UNIT FOR ELECTRIC POWERIZED HAND TRUCKS

Ready-Power combines full electric power *with no fatigue* AND the economy and low maintenance of LP-gas in one compact new power unit. Installation is easy on any make of motorized electric hand truck with adequate sized power compartment. Unit accommodates an interchangeable 20-pound fuel cylinder, includes a quick-disconnect fuel line coupling for safety, has removable end, side and cover plates for easy accessibility. LP-gas components are listed by Underwriters' Laboratories and comply with Factory Mutual recommendations. Write for information.

READY-POWER
The READY-POWER Co., 3832 GRAND RIVER AVE., DETROIT 8, MICH.
Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electric Power Units for Industrial Trucks

For more details circle NED-903 E7 on enclosed inquiry slip

NEW Norgren
MICRO-FOG Lubrication Unit
For a Maximum of 100 Bearing Inches



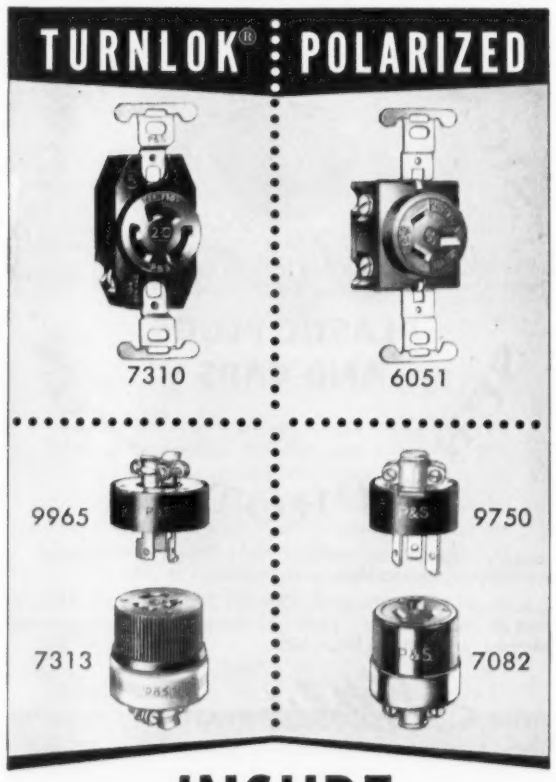
AUTOMATIC Air-Borne LUBRICATION
FOR ALL ELEMENTS OF A MACHINE

- Complete — Filter, Regulator and Lubricator
- Oil always Fresh, Clean
- Lower Bearing Temperatures
- Visual Oil Feed

WRITE FOR BROCHURE 564

C. A. NORGREN CO.
3405 SOUTH ELATI STREET • ENGLEWOOD, COLORADO
For more details circle NED-904 E7 on enclosed inquiry slip

TURNLOK® POLARIZED



INSURE DEPENDABLE PERFORMANCE

WITH P&S DEVICES — sturdily constructed and tested for long life on heavy duty service. Matched components will not distort — provide positive, secure connections with no play or looseness.

FEATURING . . .

- Oversize contacts—accurately positioned
- Extra heavy metal parts
- Extra sturdy plastic bodies
- Ratings plainly visible on face of device
- Designed for easy, quick wiring
- MODERN DESIGN

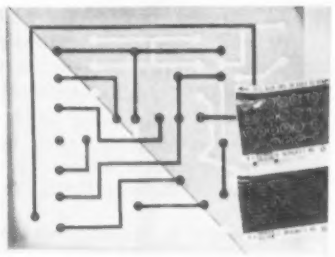
For complete information, write Dept. NED-20

P&S
PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK
60 E. 42nd St., New York 17, N. Y. 1440 N. Pulaski Rd., Chicago 51, Ill.
In Canada: Renfrew Elec. & Refrig. Co., Ltd., Renfrew, Ontario

MAKE THE COMPLETE JOB COMPLETELY P&S
For more details circle NED-905 E7 on enclosed inquiry slip

New Processes & Materials

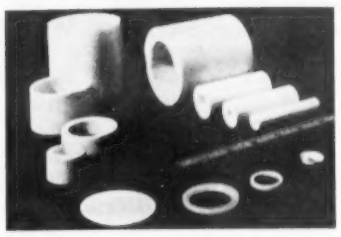
CIRCUIT LAYOUT TAPE
speeds photographic reproduction



Precut shapes and terminal strips made from B-150X photographic tape have white adhesive side and black top side to minimize camera work in reproducing printed circuit layouts. Circuits are laid out with Black 'N White tape and shapes on both sides of translucent cloth or film. Layout is placed on white surface for photographic reproduction, white shapes and strips on reverse side do not register. After exposure, second side is photographed. Shapes permit perfect register of two sides of layout and assure accurate alignment of connecting strips and terminals on the finished product. Shapes are available in graduated sizes of 1/10-in. and fractional increments. Angles, curves, ellipses, and circles can be made quickly. Made by **W. H. Brady Co.**, Dept. NED, 727 W. Glendale Ave., Milwaukee 9, Wis.

For more details circle NED-906 E7 on enclosed inquiry slip

TEFLON DISKS
range from 4 to 18 in. diameter



In addition to basic shapes illustrated, a line of standard size Teflon disks is now available. These range from 4 to 18 in. in diameter and in thicknesses of 1/16 and 1/8-in. Disks afford savings of waste material through elimination of corners as on regular sheet material. This savings amounts to as much as $5.15 per disk, depending upon poundage bracket involved. Made by **Allegheny Plastics, Inc.**, Box T, Coraopolis, Pa.

For more details circle NED-907 E7 on enclosed inquiry slip

ALUMINUM SOLDER
fluxless type has high strength

Strength to 20,000 psi in a mitered joint and low skill applicability with any form of heat that raises temperature to 720° F are features of No. 55 Rubbon Fluxless aluminum solder. No galvanic action takes place between solder and base metal and color match with aluminum is good. Best bond is obtained by heating the cleaned base metal so that the solder melts and tins the surface when it is rubbed on. Joining is by heating two tinned surfaces held firmly together. The 1/8 x 18-in. solder rods can also be used on zinc base die cast metal, copper and steel. Made by **All-State Welding Alloys Co.**, 249 Ferrisden Ave., White Plains, N. Y.

For more details circle NED-908 E7 on enclosed inquiry slip

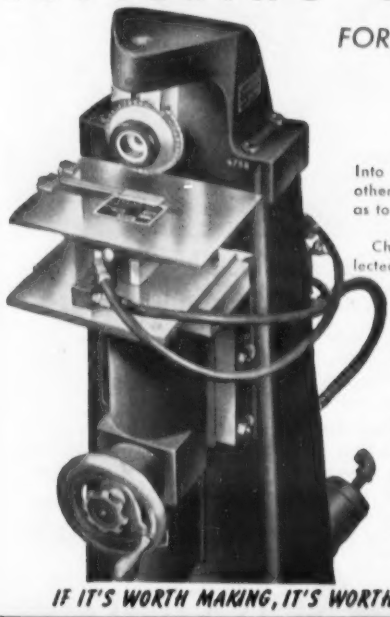
MOVABLE WALL PARTITIONS
arrangement of walls and office furnishings is quickly changed

Particularly suited for offices and adaptable to various business concerns and plants. Workwall movable partitions allow quick setup or change of office arrangement. Workwall comes in railing to ceiling heights, singly or in combination, with open or closed bases. Adjustable legs compensate for uneven floors, and floor clamps firmly secure partitions to floor.

Partitions can be free-standing, or attached to existing masonry, stud or plastic walls. Standard, corner and three-way uprights are of brass-finished anodized aluminum. Panels are Marlite plastic, or glass when desired. Desks, shelves, cabinets and other accessories can be attached to or rearranged on any wall in the office by means of heavy duty cadmium-finished brackets. Made by **L. A. Darling Co.**, Dept. NED, Bronson, Mich.

For more details circle NED-909 E7 on enclosed inquiry slip

PNEUMATIC POWER LETTERING PRESS



FOR STAMPING SELECTIVE LETTERING

Into DIE components and other metal parts such as tools, gauges and jigs.

Characters are selected by turning dial and are stamped into part when foot pedal is depressed. Spacing of characters is automatic.

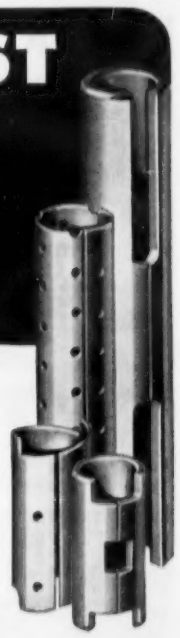
Requires 20 to 40 pounds line pressure. Write today for further information on this or any other member of the famous GTS line.

IF IT'S WORTH MAKING, IT'S WORTH MARKING.

GEO. T. SCHMIDT, INC.
1800 W. Belle Plaine Avenue
Chicago 13, Illinois

For more details circle NED-910 E7 on enclosed inquiry slip

LOW COST SPACER TUBES
(SLEEVES, BUSHINGS, FERRULES)



Save Money on Many Jobs!

No scrap, no cut-off or de-burring time. Ready-to-use rolled, split steel spacers save money in thousands of applications, from automobiles to phonographs, business machines to wheeled goods. Hundreds of standard lengths, diameters and gauges to meet your requirements.

FREE CATALOG and PRICE LIST enables you to order direct and save. Write for your free copy today!

FEDERAL-MOGUL DIV.
Federal-Mogul-Bower Bearings, Inc.
11079 SHOEMAKER • DETROIT 13, MICHIGAN
For more details circle NED-911 E7 on enclosed inquiry slip

Kodak Signet 40 Camera—makes sharp, clear pictures.

Simple but capable camera for record pictures, 35mm slides

With this precise yet easy-to-use camera you can make excellent *record pictures* (black-and-white or color) of safety hazards, job setups, breakage claims, research projects, maintenance problems. And you can shoot top-quality slides for training lectures, sales talks, or technical discussions.

The Kodak Signet 40 Camera gives you a fine *f*/3.5 lens, and shutter speeds from 1/5 to 1/400 second—yet it's simple to use. It's small enough to slip in your pocket, carry along on field trips. You'll like the brilliant viewfinder coupled with rangefinder in a single window. Price—only $69,* including flasholder and two reflectors (for both popular types of midget bulbs).

FREE BOOKLET gives you full details. Write for it.

**List price, including Federal Tax. Subject to change without notice.*

EASTMAN KODAK COMPANY
Rochester 4, N. Y.

Kodak

For more details circle NED-912 E7 on enclosed inquiry slip

Aeroquip Flexible Hose Lines Resist Heat, Vibration and Abrasion

Albion Malleable Iron Company, Albion, Michigan, has long relied on Aeroquip Hose and Reusable Fittings for hydraulic and other fluid lines on coremaking, molding, melting, heat-treating and finishing equipment.

Finishing Superintendent Ernie Sandelius says, "Aeroquip Hose resists abrasion, vibration, heat and other operating stresses better than anything we've used." Want full information? Call the Aeroquip Distributor listed in your Yellow Page Phone Book, or write us.

Aeroquip

AEROQUIP CORPORATION, JACKSON, MICHIGAN

IN CANADA: AEROQUIP (CANADA) LTD., TORONTO 10, ONTARIO
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A., CANADA AND ABROAD

For more details circle NED-913 E7 on enclosed inquiry slip

EISLER

FOR 35 YEARS

We supply any part or complete equipment . . . Special turntables made to order

INDEXING TURNTABLES
MORE THAN 100 DIFFERENT TYPES

- FOR WELDING • BRAZING • SOLDERING • SPRAYING
- GLASS INSULATOR MELTING AND GLASS GLAZING with rotating stations and indexing with barrel cam or Geneva gear action.
- For work transferring, tilting positions. Motorized or hand operated.

Eisler Indexing Turntables are completely electrically controlled

AND CAMS MADE TO YOUR SPECS!

Manufacturers' representatives wanted

EISLER ENGINEERING CO., INC.
740 SO. 13th ST., NEWARK 3, N. J.
Charles Eisler, Jr., President

For more details circle NED-914 E7 on enclosed inquiry slip

DFPA TRIMED QUALITY

Fir Plywood

LIGHT, STRONG, DURABLE, REAL WOOD PANELS

For: BUILDING AND MAINTENANCE, SHIPPING CONTAINERS, PALLETS, PARTS BINS, PARTITIONS, TANKS, 1000 OTHER INDUSTRIAL USES

MORE versatile than any other material, fir plywood combines the workability of real wood, the economy of large size, the strength and rigidity of engineered panel construction. When you specify DFPA grade-trademarks, you're assured tested quality that meets strict industry requirements.

SEND FOR complete grade, use, specification data

DOUGLAS FIR PLYWOOD ASSOCIATION
Tacoma 2, Wash., Dept. 181 (Good USA Only)
☐ Please send Fir Plywood Purchasing Guide
☐ Information about using plywood for . . .

Name
Title
Firm
Address
City Zone State

For more details circle NED-915 E7 on enclosed inquiry slip

New Literature & Catalogs

Electronic Control Assemblies & Gear

Cook Electric Co., Electronic Systems Div.—Electronic control assemblies and complex electronic gear are illustrated and briefly described in 22-page brochure 1-57. Covered are missile test equipment; such automation equipment as gas meter prover, vhf and cw transmitter, Balloncode telemetering system, aircraft controls and auto pilot control; a sonic anemometer-thermometer; tape recorders; radar equipment; and a mobile laboratory.

For more details circle NED-916 E7 on enclosed inquiry slip

Wet Mixers & Homogenizers

Gifford-Wood Co.—24-page catalog 600 comprehensively describes the newly-acquired Eppenbach line of wet mixing and homogenizing equipment. Covered are Colloid mills for refining wet materials to very fine size; Homo-Mixers for fast blending and homogenizing of light to heavy viscosity materials; and Agi-Mixers for fast, intensive blending and homogenizing of wide range of light to heavy viscosity materials.

For more details circle NED-917 E7 on enclosed inquiry slip

Punched Tape Equipment

Commercial Controls Corp.—Cartoon type illustrations offer a quick interpretation of the Friden Flexowriter automatic writing machine in 24-page booklet "The Punched Tape Story." It shows how common-language punched paper tape is created for integrating other business equipment or used to actuate Flexowriters to produce documents at 100 words per minute.

For more details circle NED-918 E7 on enclosed inquiry slip

Silicone Rubber

Up-to-date report on a highly versatile elastomer is presented in 48-page booklet "1957 . . . Silicone Rubber." It includes 38 graphs and illustrations, and is a reprint of three papers given by company chemists. Basic chemistry, properties and considerations, and compromises involved in compounding silicone rubber for fabrication are discussed. The basic reference booklet is available for $1.00 from Connecticut Hard Rubber Co., 407 East St., New Haven 9, Conn.

For more details circle NED-919 E7 on enclosed inquiry slip

Tubing & Its Production

Tubing produced by this company, how it is processed and facilities for handling a wide variety of tubing requirements are described and illustrated in informative booklet. Fold-out flow chart takes reader on a pictorial tour through the production process. Sections are included on mechanical seamless carbon or alloy tubing, electric resistance welded and other forms of tubing. Available only by writing to Copperweld Steel Co., Ohio Seamless Tube Div., Shelby, O.

For more details circle NED-920 E7 on enclosed inquiry slip

Why accept "half-alive" spraying?

STEP UP PERFORMANCE *with* **SPRAY NOZZLES** *from Spraying Systems*

Spraying Systems' original design and precision manufacture make a world of measurable difference. Better spray nozzle performance results from improved control of such spray characteristics as volume, particle size, spray angle and distribution. For all the facts, just write for your copy of our forty-eight page Catalog 24.

SPRAYING SYSTEMS CO.
3211 RANDOLPH • BELLWOOD, ILLINOIS

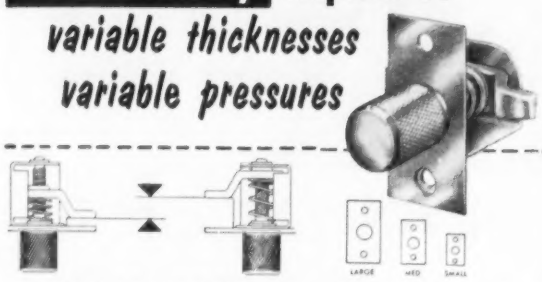
ADVANCED SPRAY NOZZLE DESIGN FOR NEW DIMENSIONS IN CONTROL AND PERFORMANCE

For more details circle NED-921 E7 on enclosed inquiry slip

THIS DOOR FASTENER

...with the turn of a knob...

automatically adjusts to *variable thicknesses variable pressures*



with just a turn of the knob . . . thick or thin . . . as light or as tight as desired

Pre-assembled for fastest installation. Three standard body sizes with a choice of pawls covering a wide range of grip lengths.

Also available are left-hand models, fixed adjustable pawls and flush screwdriver-operated heads.

Write for full information. SOUTHCO DIVISION, SOUTH CHESTER CORPORATION, 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS LION

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For more details circle NED-922 E7 on enclosed inquiry slip

DESIGNED FOR LOW-COST · SURE PROTECTION ·

S.S.White

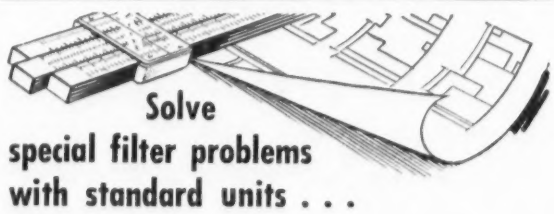
PLASTIC PLUGS AND CAPS

SEAL . . . against dirt, moisture, loss of fluids or lubricants!
PROTECT . . . against damage to threads!

S.S. WHITE Plastic Plugs and Caps are available in a wide selection of standard sizes – plain and threaded. For literature and samples, just write to Dept. NP.

THE S.S.White PLASTICS DIVISION
10 East 40th St., New York 16, N. Y.
Western Office: 1839 West Pico Blvd., Los Angeles 6, Calif.

For more details circle NED-923 E7 on enclosed inquiry slip



Solve special filter problems with standard units . . .

Got a filter problem? Solve it with one of our many standard units. Wide range of requirements covered!

ACIDS	DETERGENTS	
AIR	ESSENTIAL OILS	
ANTIBIOTICS	FATS	
ANTIFREEZE	FOODS	
BEVERAGES	FUEL	
CATALYSTS	GASES	
COATINGS	GASOLINE	
CONFECTIONS	GREASE	
COOLANTS	HYDRAULICS	
COSMETICS	INTERMEDIATES	
CUTTING FLUID	LACQUERS	
LIQUORS	PETROCHEMICALS	TOOTHPASTE
MEDICINES	PIGMENTS	VARNISHES
OILS	REFRIGERANTS	VEHICLES
OINTMENTS	SOLVENTS	VITAMINS
PAINTS	SYNTHETICS	WATER
PASTES	SYRUPS	WAXES

Write for Purolator General Filter Catalog, or send schematic drawing and details of your filter problem for specific recommendation. Address Dept. D4-128 Purolator Products, Inc., Rahway, New Jersey.

Filtration For Every Known Fluid

PUROLATOR PRODUCTS, INC.

Rahway, New Jersey and Toronto, Ontario, Canada

For more details circle NED-924 E7 on enclosed inquiry slip

WHEN you depend on Mosinee for sulphate paper with special characteristics, you can be sure the specifications you need will be met. All you have to do is state your requirements — Mosinee has the paper technology to do the rest. What's more, with strict quality controls and flexible production capacity, Mosinee can produce custom-tailored papers in any quantity, with uniform quality. Mosinee has been creating special sulphate papers for nearly 50 years to meet a wide variety of specific packaging, processing and fabricating needs.

Send for information file describing Mosinee's extensive research facilities, years of experience and technical consultant service.

Mosinee

Paper Mills Company • Mosinee, Wisconsin

For more details circle NED-925 E7 on enclosed inquiry slip

For Your Products

Among the wide range of shapes, sizes, closures, and colors we now produce, there's one that will fit your needs—*without* mold costs.

Jewel-colored Clearsite containers are moisture-tight, dust-proof, easy to multi-color print. Because they are shatter-proof, they minimize breakage cost —their light weight means lower shipping charges. For full details address Dept. N.

Clearsite

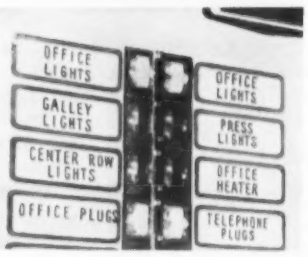
CELLUPLASTIC CORPORATION

Sales and Executive Offices • Newark, N. J.

For more details circle NED-926 E7 on enclosed inquiry slip

New Processes & Materials

SELF-STICKING LABEL
protected against smudging, injury



Furnished in perforated sheets for easy preparation by typing, printing or writing, Clear Cover self-sticking marker label offers protection against smudging or other injury during application or in use. Label is made of flexible, rubber-impregnated Flex-Stik which is resistant to oil, grease and most acids. Mylar plastic film cover resists moisture, solvents and chemical attack, has high dielectric strength and withstands −60 to 150° C. Label does not dry out or become brittle. Various shapes, sizes and colors are suited for switchboard, parts bin, cable, pipe, wire and other flat or curved surface marking. Made by **Pressure Sensitive Products Corp.**, Room 1, 116 S. Stoneman Ave., Alhambra, Calif.

For more details circle NED-928 E7 on enclosed inquiry slip

HYDRAULIC EQUIPMENT ENAMEL
protective synthetic rubber type

Finish on hydraulically operated equipment is protected from corrosive effects of hydraulic fluids by Pliogard synthetic rubber enamel. It is a high solids, chemical resistant coating made from styrene butadiene resins. It air-dries dust-free to a tough, adherent, film 30 minutes after application on metal, wood or concrete by spray, brush, dip or roller. Thermoplastic, nonoxidizing coating withstands 250° F continuously. It is available in 14 standard colors or to specification. Made by **Saran Protective Coatings Co.**, 2417 Burdette Ave., Ferndale 20, Mich.

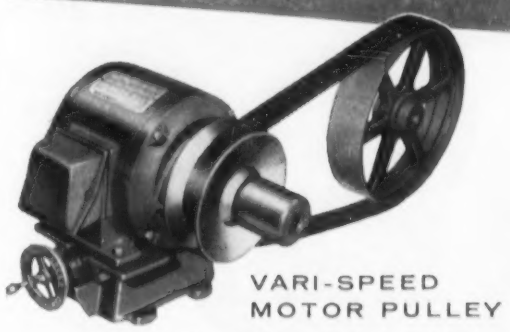
For more details circle NED-929 E7 on enclosed inquiry slip

PLATING BARREL REPAIR KIT
uses simulated welding process

Low cost repairs of Plexiglas and Lucite plating barrels can be made with this repair kit. The application of layers of glass fiber cloth has been eliminated. Kit actually allows performance of a simulated welding process, creating an integral bond between repaired area and original barrel sections. The complete kit, including sheet Plexiglas, acrylic casting resin, catalyst and promoter components, sells for $21.00. Offered by **Frederic B. Stevens, Inc.**, 1802 Eighteenth St., Detroit 16, Mich.

For more details circle NED-930 E7 on enclosed inquiry slip

ADD FLEXIBILITY to your machines with the REEVES MOTOR PULLEY



VARI-SPEED MOTOR PULLEY

provides an instantly variable speed drive within 4:1 ratio for any constant speed motor. Sizes to 15 hp.

Write ND30b-V545 for bulletin

REEVES PULLEY COMPANY

Division of RELIANCE Electric & Engineering Co.

COLUMBUS, INDIANA

For more details circle NED-931 E7 on enclosed inquiry slip

ONLY WENDWAY can do so many jobs *So Well!*

To carry your production from the initial processing stage right through to the shipping department . . . just press the control button on a Wendway Light Product Conveyor. Wendway delivers a steady flow of products or materials smoothly, quietly, wherever you need them. Up, down, around, through walls and back again. It's that versatile! See for yourself how Wendway can save you money in space, handling costs, convenience and time. Just fill in the coupon below.

Wendway Conveyor belting, constructed of special 87 wire and fabricated on specialized machines, is an exclusive development of Union Steel Products Co.

Wendway Spiral Conveyor cools raw products, packages or containers at ceiling height. Saves floor space.

3 Tier Wendway Package Conveyor carries a steady flow of packages to waiting trucks.

Single Tier Wendway Conveyor moves packages from bag loader through a series of stapling operations.

Sliced Cold Meats travel on Wendway stainless steel belting through labeling and on to wrapping machine.

Wendway carrying freshly packaged cheese to labeling machine.

Cartons and Light Packages move perfectly on Wendway's smooth, silent belting.

UNION STEEL PRODUCTS CO.
ALBION, MICHIGAN

Mail Today

Gentlemen: Please send additional information about Wendway for conveying _____

Name _____
Company _____
Address _____
City _____ Zone ____ State ____

☐ Please have a USP Conveyor engineer contact me at once.

For more details circle NED-932 E7 on enclosed inquiry slip

Q. WHERE CAN A MIGHTY-MITE VIBRATING SCREEN SAVE MONEY FOR YOUR COMPANY?

A. WHEREVER YOU HAVE MATERIALS TO BE SCREENED, DEWATERED, DEDUSTED OR RECLAIMED IN LOW VOLUME UP TO 15 T. P. H.

SINGLE AND DOUBLE DECK MODELS PROVING PROFITABLE IN HUNDREDS OF INDUSTRIAL ASSIGNMENTS

All over America, in hundreds of plants you'll find Mighty-Mite vibrating screens on the job. These well-engineered, low-first-cost screens save time, save labor by doing a multitude of screening jobs accurately. Whatever you have to screen, dedust, dewater or reclaim in low volume (up to 15 T. P. H.) it will pay you to do it with a Mighty-Mite.

SEND FOR BULLETIN NO. 12 TODAY.

SCREEN EQUIPMENT CO., INC.

BUFFALO 25, NEW YORK

For more details circle NED-927 E7 on enclosed inquiry slip

NØELTING
Faultless ENGINEERED
TRUCK CASTERS
CUT HANDLING COSTS

NEW!
DRAWN STEEL WHEELS FOR LONGER WEAR

399 Series Double Ball Bearing Swivel Plate Caster with Steel Wheel

Faultless Casters equipped with the new Drawn Steel Wheels provide (1) *longer life*, (2) *greater efficiency*, (3) *at minimum maintenance* and, thus, (4) *lower operating cost per mile.*

Faultless Steel Wheel Casters help industry reduce overhead by maintaining fast, fluid production lines. These precision-made wheels are machined to tolerances typical of fine tools and like any quality equipment, are the best investment for long uninterrupted service. Write for Bulletin

FAULTLESS CASTER CORPORATION
Evansville 7, Indiana
Offices in Principal Cities—Canada Factory: Stratford, Ont.

For more details circle NED-938 E7 on enclosed inquiry slip

Don't waste time hunting speed reducer data...

...ask for the
NEW Westinghouse engineering manual

Under one cover—simplifies getting all the newest plus existing facts on speed reducers:

- **Selection:** single, double or triple reduction
- **Hp rating:** 1 to 4000 **Gear reduction:** to 291:1

Torque capacities Dimensions
Overhung load values Construction
Installation and maintenance

YOUR FREE COPY is waiting. Write for Manual B-6727, Westinghouse Electric Corporation, 3 Gateway Center, Box 868, Pittsburgh 30, Pa.

YOU CAN BE SURE...IF IT'S
Westinghouse
J-07352-X

For more details circle NED-939 E7 on enclosed inquiry slip

New Literature & Catalogs

Liquid-Gas Separation

Selas Corp. of America—"Liquid-Gas Separation" is title of 10-page bulletin S-1052 which provides information on the Liqui-Jector liquid-gas separation device for removal of entrained liquids and solids from air, gas and steam systems. Three standard models for volumes up to 7000 scfm and pressures to 200 psig are available.

For more details circle NED-940 E7 on enclosed inquiry slip

Indexing Roller Gear Drives

Ferguson Machine Corp. of Indiana, Roller Gear Div.—Original-equipment machines and instruments with low torque requirements and a need for indexing rates up to 2000 rpm can make use of small series E roller gear drive. Data are given in 4-page catalog 107 for 19 standard units with from 3 to 12 stops and indexing periods of 120, 180 and 270 degrees.

For more details circle NED-941 E7 on enclosed inquiry slip

Woven Wire Slings

Cambridge Wire Cloth Co.—18-page catalog illustrates and describes Gripper woven wire slings in detail, gives typical applications and provides complete price information.

For more details circle NED-942 E7 on enclosed inquiry slip

Materials Handling Equipment

Fab-Weld Corp.—Over 100 types of equipment for handling of materials in virtually every type of business are pictured in catalog on "Materials Handling Equipment." Covered is wide variety of steel pallets, containers and hoppers, trucking vehicles, drop-bottom feeding hoppers, steel racks and in-line tow trucks.

For more details circle NED-943 E7 on enclosed inquiry slip

Metal Tubular Parts

H & H Machine Co.—What this company can do in the manufacture of small specialized metal tubular parts is outlined in 4-page bulletin 2056. Parts range from 0.010 to 5/4-in. diameter with tolerances to 0.001-in. They can be made from any commercial alloy.

For more details circle NED-944 E7 on enclosed inquiry slip

Press Room Equipment

Sesco Inc.—Press room equipment described and illustrated in 16-page catalog 571 includes punch press feeders, coil stock cradles and straighteners, combination center reels and power driven straighteners, centering reels, hydraulic gripper feeds, feed combinations and scrap cutters. Featured is the Sesco hydraulic system used in this equipment.

For more details circle NED-945 E7 on enclosed inquiry slip

Lab Analytical Instruments

Perkin-Elmer Corp.—"Instrumentation for Analysis" is title of 16-page catalog describing company's line of infrared and ultraviolet spectrophotometers, monochromators, flame photometers, vapor fractometers and accessory equipment. Brief coverage is given to P-E process control instruments, as well.

For more details circle NED-946 E7 on enclosed inquiry slip

Steel Products for All Industry

Crucible Steel Co. of America—232-page "Product & Warehouse Catalog" compiled for purchasing agents and steel users describes over 700 steel products available from stock warehouses. Book lists 16 categories of special purpose steels, including high speed, tool, stainless, alloy and machinery steels, available in 16,000 grades and sizes. Over 20 estimating, conversion and weight tables, plus other information, are included.

For more details circle NED-947 E7 on enclosed inquiry slip

Shredders, Grinders & Hashers

Jeffrey Mfg. Co.—Rigid hammer type shredders, grinders and hashers for reducing cork, pulp laps, wood chunks, rubber, citrus fruit, bones and other materials are described in 16-page illustrated catalog 907.

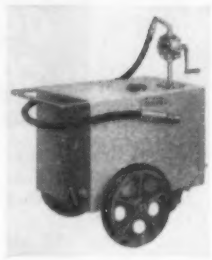
For more details circle NED-948 E7 on enclosed inquiry slip

Self-Leveling Work Positioners

American Machine & Foundry Co., Lowerator Div.—Advantages of AMF Lowerator self-leveling work positioners in solving different material positioning and handling problems are graphically demonstrated in 6-page folder L-281-6. Units automatically position material at convenient work level by means of adjustable calibrated spring mechanism.

For more details circle NED-949 E7 on enclosed inquiry slip

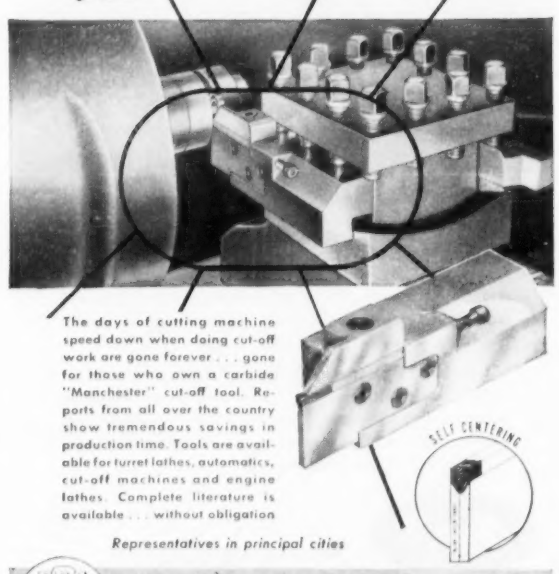
PORTABLE WHEEL TANK has dual suction and dispensing pump



Portable tank transports industrial cuttings oils from storage tanks to machinery and used oils from machinery to the reclaiming or filtering unit. A reverse suction rotary pump enables drawing of the liquid into tank by turning the crank handle to the left and discharging the liquid when turning to the right. Two strainers are used, one at the hose end to prevent chips from entering the tank and the other is located at extreme bottom of the suction pipe to prevent any foreign matter from entering the pump. Tank is 65-gallon capacity, durably constructed and leakproof. The fill opening is fitted with a vented plug for quick, rapid filling. Hose and wheels are made of synthetic rubber for durability and easier transportation of tank from place to place. Steel wheels available when desired. A clean-out opening enables quick removal of any foreign matter from inside the tank. Its use encourages frequent changes of cutting oils, thus increasing life and efficiency of the machine tool. FOR FREE FOLDER WRITE BOWSER, INC., 1381 E. CREIGHTON AVE., FORT WAYNE, INDIANA.

For more details circle NED-950 E7 on enclosed inquiry slip

NOW YOU CAN CUT-OFF WITH CARBIDE AT *full* RATED CUTTING SPEED



The days of cutting machine speed down when doing cut-off work are gone forever . . . gone for those who own a carbide "Manchester" cut-off tool. Reports from all over the country show tremendous savings in production time. Tools are available for turret lathes, automatics, cut-off machines and engine lathes. Complete literature is available . . . without obligation

Representatives in principal cities

PORTAGE Double-Quick, Inc.
1043 SWEITZER AVENUE • AKRON 11, OHIO

For more details circle NED-951 E7 on enclosed inquiry slip

Modern AIR CONVEYING for BULK MATERIALS HANDLING

SPROUT-WALDRON
PNEU-VAC

Modernize for greater savings with a Sprout-Waldron PNEU-VAC Pneumatic Materials Handling System. It draws granular, pulverized, and flaky materials by air anywhere you can run a pipe. The unit can be made to cool, to heat, to aerate, to dry.

Pneu-Vac is self-cleaning, does not produce dust, prevents infestation and product intercontamination, saves space, increases production, provides greater safety and better working conditions.

Sprout-Waldron also offers complete lines of the most advanced screw, belt, and drag conveyors . . . bucket elevators . . . and rotary vane feeders. Write for details.

Write for Bulletin 18-D.

IN/495

SPROUT-WALDRON
Manufacturing Engineers Since 1866
8 LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION • MIXING & BLENDING • BULK MATERIALS HANDLING • PELLETING & CUBING • PRODUCT CLASSIFICATION

For more details circle NED-952 E7 on enclosed inquiry slip

Installed on 17 Lift Trucks

SAVED $40,000 A YEAR

Everybody Was Happy!

WORKERS no longer complained about discrepancies in pay checks — they knew the Servis Recorder work-record was right!

OTHER OPERATING DEPTS. received several of the lift trucks no longer needed on their previous assignments due to the new efficiency.

THE DEPT. SUPERVISOR received a cash award for efficiency!

MANAGEMENT . . . well, $40,000 savings ain't hay! Management thinks Servis Recorders are wonderful — in fact they have bought 30 more! (Name of this company furnished on request.)

YOU can profit by installing Servis Recorders, too. The cost is low! Write for illustrated literature today!

THE SERVICE RECORDER CO. 1013A Rockwell Ave. CLEVELAND 14, OHIO

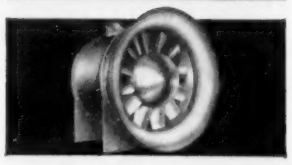
For more details circle NED-953 E7 on enclosed inquiry slip

CHANGE VOLUME OR PRESSURE WITH JOY AXIVANE FANS

Adjustable blades can be set on the job.

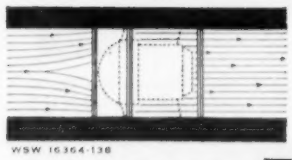
SAVE SPACE

The motor is inside . . . entire fan mounts inside ductwork . . . no foundations, offsets, drives, or guards.



SAVE LABOR

Simple, in-line design means quick, economical installation—even with inexperienced labor. Extremely low maintenance.



SAVE POWER

No belt power loss . . . high efficiency requires less power. Adjustable blades can correct for poor ductwork or unpredictable resistance.

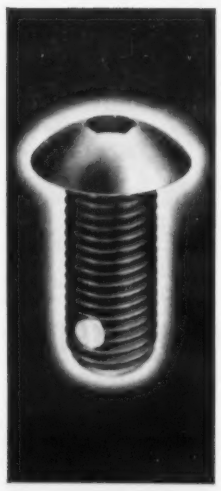
WSW 16364-136

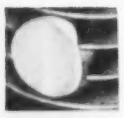
Find out More about Joy High-Performance Fans . . . Get FREE BULLETIN 138-54

JOY MANUFACTURING COMPANY
Oliver Building, Pittsburgh 22, Pa.
In Canada: Joy Manufacturing Company (Canada) Limited, Galt, Ontario.

For more details circle NED-954 E7 on enclosed inquiry slip

NEW—self-locking UNBRAKO button head cap screws





The Nylok* self-locking feature locks these screws securely in place. They won't work loose. Can be used repeatedly. Tough, resilient nylon locking pellets permanently installed. Successfully withstand temperatures ranging from —70 to 250°F. Low, streamlined heads with accurate hex sockets for positive nonslip drive and freedom from marred or mutilated heads. Heat treated alloy steel, continuous grain flow lines, fully formed Class 3A threads for maximum strength and exact fit. Pellets act as liquid seals. Standard sizes #6 to ⅝ in. Write for Bulletin 2193. Unbrako Socket Screw Division, STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

*TM Reg. U.S. Pat. Off., The Nylok Corporation

UNBRAKO SOCKET SCREW DIVISION

STANDARD PRESSED STEEL CO.
SPS
JENKINTOWN PENNSYLVANIA

Unbrako Products are sold through Industrial Distributors

For more details circle NED-955 E7 on enclosed inquiry slip

New Processes & Materials

WALL PAINT KIT for creating attractive brick design

Four quarts of white and 1 qt of maroon, gray or other contrasting color paint make up this Seal-Kote paint kit for finishing building walls in an attractive brick design. Paint can be used on cement and cinder blocks, wood, plaster and all types of masonry. Finish has nonfading, easy-to-clean surface that does not blister or crack in extremes of heat or cold. It also resists effects of grease, oil, fats and dirt. Applied over wet or dry walls, paint prevents further moisture penetration. Photo shows workman using special applicator to create brick design. Made by **Seal-Kote Inc.**, 517 N. Market St., Wooster, O.

For more details circle NED-956 E7 on enclosed inquiry slip

EPON-FINISH STRIPPER safely removes tough finishes

High-grade epon and other tough finishes are safely removed with Oakite Stripper S-A, a solvent-acid compound. Inhibited for safety on all metals except magnesium, it will strip most impervious films in 10 minutes and a wide variety of resistant paints in from 1 to 5 minutes. It will also remove light rust, scale and smut deposits. It is used at room temperature at full strength. Parts are immersed in the tank for the necessary time, and then are rinsed with cold or hot water. Material presents no fire hazard. Made by **Oakite Products, Inc.**, 132G Rector St., New York 6, N. Y.

For more details circle NED-957 E7 on enclosed inquiry slip

ANTIRUST PAINT can be applied on damp surfaces

Bituminous alkyd base is combined with a vehicle which penetrates moisture to the surface metal in 88 Special antirust paint. Suited for wet weather application, it can be used where it is impossible to dry a metal surface. Paint forms a shiny black elastic coating that resists dampness, mild industrial acids and fumes, grease, oil, drying effects of sun and extreme temperature changes. Application is by brush, spray or roller. Made by **Chem Industrial Co.**, Dept. N, 3784 Ridge Rd., Brooklyn 9, O.

For more details circle NED-958 E7 on enclosed inquiry slip

FLAT GROUND DIE STEEL in oil and air hardening types; have 25-35 microinch finishes

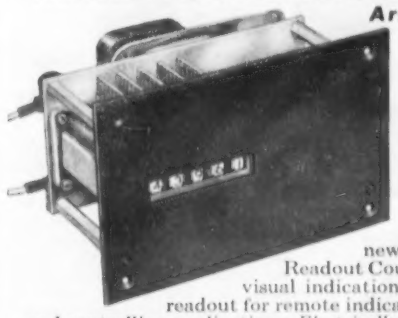
Line of oil and air hardening flat ground die steels provides more than 1300 standard stock sizes for wide variety of tool and die applications. Nucut oil hardening type is high grade molybdenum alloy steel spheroidize-annealed for easy machinability. Rockwell C hardness of 64.65 is achieved in 1450 to 1540° F hardening range. Used for dies, jigs, punches, templates, gages and small tools, this type comes in 18 and 36-in. lengths, 1/64 to 14-in. widths and many stock sizes.

Nucut 5-per cent air hardening type with high wear resistance is hardened to 63-65 Rockwell C with 1700 to 1800° F range. Tools made from this steel can be used to punch silicon or stainless steels, Monel and abrasive metals, or for long production runs. It comes in 36-in. lengths and a wide range of widths and thicknesses, including squares. Surface-finish of 25-35 microinches for both steels is featured. Made by **Heller Tool Co.**, Heller Dr. N.E., Newcomerstown, O.

For more details circle NED-959 E7 on enclosed inquiry slip

NEW Data-Readout Counter

Provides 100,000 Distinct Circuit Arrangements



Electrically actuated Data-Readout Counter with electric reset. Form B-15338 for 110V AC/DC.

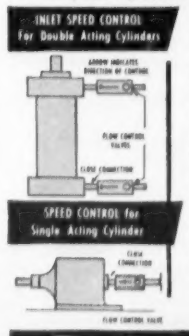
Veeder-Root's new series of Data-Readout Counters combines visual indication with electrical readout for remote indication, recording, and controlling applications. *Electrically* or *mechanically* driven and provided with *manual* or *electric* reset, these counters present a positive display of accumulated totals and automatically create specific control circuit contact closures for each number visually displayed. Each instrument, with its five figure capacity, provides 100,000 distinct circuit arrangements which lend themselves to the most exacting control and transmission requirements. The counters are compatible with standard data processing equipment and offer a wide variety of applications in the industrial control and data processing fields.

Veeder-Root Inc.
"THE NAME THAT COUNTS"
Hartford, Conn. • Greenville, S. C. • Chicago • New York • Los Angeles
San Francisco • Montreal • Offices and Agents in Principal Cities

For more details circle NED-960 E7 on enclosed inquiry slip

Pneu-Trol VALVES

★ Accurate, Constant Cylinder Speed Control
★ Compact Rugged Design
★ Simple, Easy Speed Selection ★ For Air, Oil or Water Applications



Pneu-Trol Speed Control Valves, are widely used in hundreds of control applications because they combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to its seat, requiring only a slight differential pressure to fully open or close it.

Needle design permits maximum flow capacity in the controlled direction. Metal to metal needle and ball seats insure long trouble-free service. Simple, practical "O" gland structure eliminates troublesome leaking. Valve bodies machined from hex brass or aluminum for 2000 psi working pressures; steel and stainless steel for 5000 psi. Made in 5 female pipe sizes—⅛" to ¾". ATTRACTIVE PRICES . . . IMMEDIATE DELIVERY.

Write for illustrated circular and prices.

Pneu-Trol DEVICES, INC.
1432 N KEATING AVENUE • CHICAGO 51, ILL

For more details circle NED-961 E7 on enclosed inquiry slip

REDMER Index Chuck with Air Operated Collet

SIMPLIFIED DESIGN SPEEDS UP OPERATION AND REDUCES INDEXING ERRORS

The REDMER AIR INDEX CHUCK speeds up production and eliminates many costly indexing errors in either tool room or production line operation. Indexing positions on outside of chuck simplify changeovers. Lever locks into position after each index. Can be used as holding fixture without indexing for milling, drilling, tapping etc. Twelve indexing positions. Collet capacity 1/16" to 2". Complete with standard round Brown & Sharpe type collet, two air hose, Redmer Foot Control and Valve, Filter, Regulator and Lubricator.

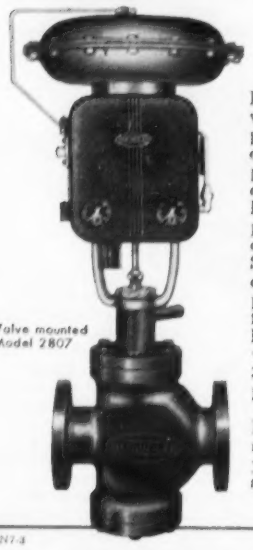
Send for complete details, specifications, price list and catalog of all REDMER chucks.

REDMER AIR DEVICES, INC.
Guntersville • Box NED • Alabama

For more details circle NED-962 E7 on enclosed inquiry slip

Now! Fast, Accurate

Low-Cost Pressure Control...



Masoneilan 2800 Series

Pneumatic feedback combined with amplifying relay type pilot produces very sensitive control where fast, high capacity valve operation is required. Air consumption is low. 2800 Series has large output capacity, low to intermediate (0-30) proportional band. Simple, rugged and compact construction, easy to install, proven dependability. Ideal for large valves, or where long line is necessary between valve and instrument. Similar 3800 Series available for temperature control.

SEND FOR *FREE* BULLETIN . . . Wide selection of ranges, moderate cost gives you new opportunity for instrument control.

MN7-4

MASONEILAN

MASON-NEILAN
Division of Worthington Corporation
69 Nahatan Street, Norwood, Massachusetts

▲ Complete Line of Control Valves, Control Instruments, Regulators, Liquid-Level Controllers and Special Process Control Equipment.

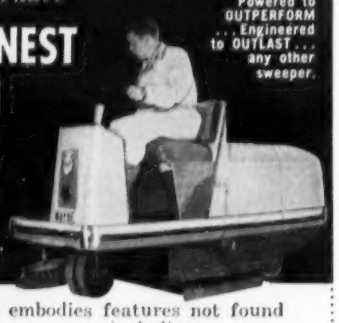
▲ For more details circle NED-963 E7 on enclosed inquiry slip ▲

Now . . . you can have

THE CLEANEST PLANT IN AMERICA

with a New Kind of Power Sweeper

Powered to OUTPERFORM . . . Engineered to OUTLAST . . . any other sweeper.



This new Wayne embodies features not found in any other power sweeper, including:

1. **Filter-Vac Dust Control** for dust-free operation.
2. **Larger Hopper Capacity** with hydraulic power-dumping. Cleans most plants in one sweep.
3. **More Power** for faster operating speeds and inclines.
4. **Automotive Steering** — maneuvers for close-up cleaning.
5. **More Efficient, Longer-Wearing Brushes.** Get *all* the dirt, even in hard-to-reach places.
6. **Vacuum Attachments** for shelves, bins, equipment, etc.

Four sizes for every need; gasoline, LP gas or battery powered. Ask for an "on the job" demonstration or write for literature.

WAYNE

WAYNE MANUFACTURING CO.
1212 E. Lexington Ave.
Pomona, California

World's Largest Producer of Power Sweepers for Cities and Industry.

▲ For more details circle NED-964 E7 on enclosed inquiry slip ▲

Here's an Easier way to handle your Blueprints!

This new, wall-type

Martin Sheet File System

enables you to work with a large number of blueprints more efficiently and neatly because each sheet hangs flat. When not in use, the sheet hangers fold flat against the wall, resulting in a minimum of storage space. A unique feature is the new spring clips which hold sheets firmly and permit quick and easy removal of sheets at any time. For complete information on how a Martin File System can solve your blueprint problems,
Write to Dept. NED.

Units are available in 2 sizes, Model #30 at $49.50 holds sheets up to 30" wide, and Model #42 at $63.80 holds sheets up to 42" wide. Both sizes have a gray hammertone finish.

Fort Pitt Fixture Company
2056 W. LIBERTY AVE. PITTSBURGH 26, PA

▲ For more details circle NED-965 E7 on enclosed inquiry slip ▲

New Literature & Catalogs

Cold Forming of Steel Bars

Republic Steel Corp.—Die-Form process is described in 4-page illustrated folder as a new method for cold reduction of steel bars into multidiameter shaft blanks ready for finish turning or grinding. Drawings and photographs show the process and its applications. Advantages include savings in steel and less scrap loss and machining time.

▲ For more details circle NED-966 E7 on enclosed inquiry slip ▲

Steam Line Expansion Joints

Yarnall-Waring Co.—Yarway type W Gun-Pakt expansion joints for institutional or industrial steam service lines feature an improved one-piece design of body and gland which eliminates customary bolted joint between body and gland. 8-page bulletin EJ-1915 gives data on how to figure expansion of pipe lines and suggestions for installation of expansion joints.

▲ For more details circle NED-967 E7 on enclosed inquiry slip ▲

Wire Wound Resistors

International Resistance Co.—Data on construction, characteristics, coating, winding, insulation identification, mechanical strength, terminals and brackets are given in 12-page bulletin C-1b on tubular and flat power wire wound resistors. Ratings extend from 5 to 225 w and resistance values from 0.10 ohm to 1.15 megohms.

▲ For more details circle NED-968 E7 on enclosed inquiry slip ▲

Resistance Heating Material

Kanthal Corp.—Kanthal Super is an ultra high temperature electrical resistance heating material for continuous use at temperatures to 1600° C. 16-page illustrated brochure describes the electrical, chemical and physical characteristics of this new cermet material which does not age at operating temperatures. Specs for making lab furnaces with this material are included.

▲ For more details circle NED-969 E7 on enclosed inquiry slip ▲

V-Belt Tips

Allis-Chalmers Mfg. Co.—Tips on how to obtain longer V-belt life are given in 12-page bulletin 20X6234C. Piece describes various types of V-belts and tells how to select and match them. It lists steps for correct installation and portrays the eight most common causes of V-belt destruction.

▲ For more details circle NED-970 E7 on enclosed inquiry slip ▲

Porcelain Enamel in Industry

Erie Ceramic Arts Co.—20-page cartoon-illustrated booklet "Porcelain Enamel in Industry" deals briefly with the origin and development of porcelain enameling. Consideration is given to such common uses as meter dials, telephone number plates and instruction plates, as well as special applications such as oil seal shoes, and reflectance and color standards.

▲ For more details circle NED-971 E7 on enclosed inquiry slip ▲

NEW! Self-Bonding *QUIK-PLATES*
Fast, Permanent Identification

- ✓ No bolts, screws, rivets — no drilling or tapping. Apply in seconds.
- ✓ Four different self-bonding methods: Pressure-Sensitive, Water, Solvent, Heat activated.
- ✓ .004" aluminum deep-etched and anodized. Bond permanently to flat, curved, crinkled finishes.
- ✓ Get custom design, functional beauty at low cost with Brady Self-Bonding QUIK-PLATES.

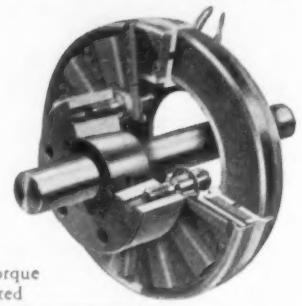
61

Write today for literature and free testing samples.

W.H. BRADY CO.
766 W. Glendale Ave. • Milwaukee 9, Wis.
Quality Industrial Identification since 1914

▲ For more details circle NED-972 E7 on enclosed inquiry slip ▲

NEW electric power brake
NEW fail-safe features
NEW design flexibility

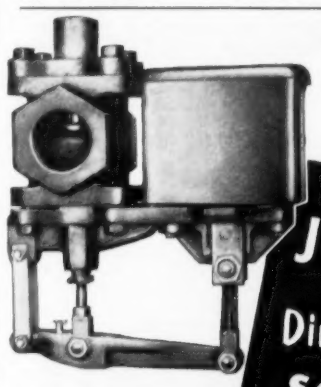


It's Warner's new POWER-SAFE electric brake, designed for use as a power brake . . . fail-safe brake . . . or both! Permanent magnets supply full-time reserve braking power. No moving parts in fail-safe feature. Not an "off-on" brake—torque build-up can be adjusted electrically. No shock when permanent magnets operate brake. Can be used in combination with a clutch in a small space. Advantages and features described in Catalog No. 6291. Write today!

WARNER

Beat competition with
ELECTRIC BRAKES AND CLUTCHES
Industrial Division
Warner Electric Brake & Clutch Co., Beloit, Wis.

▲ For more details circle NED-973 E7 on enclosed inquiry slip ▲



OUTSTANDING FOR STEAM SERVICE

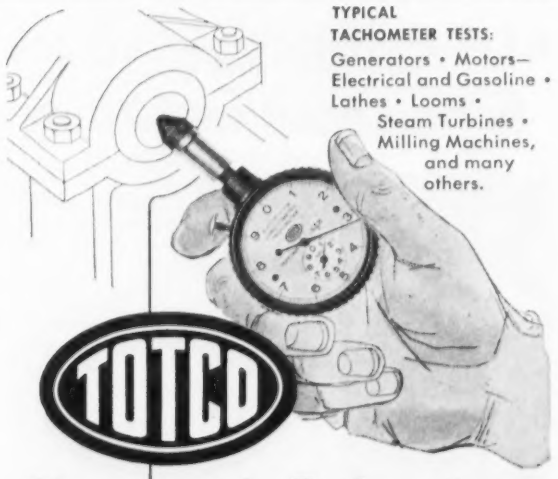
JOHNSON Direct Operated SOLENOID VALVES

Stainless steel valve and seat. Sizes: ½" to 3". Write for facts.

Job after job, these Johnson Direct Acting Solenoid Valves are proving an ideal answer for service on steam lines. Their design removes the solenoid proper from the heat of the line, permits a leverage system with ample power to open against differential pressures up to 150 lbs. There are no pilot valves or auxiliary pistons, and construction is really heavy duty throughout. You will find their inherent simplicity and instant response will solve a lot of operating problems like no other valve can.

THE JOHNSON CORPORATION
812 Wood St., Three Rivers, Mich.

▲ For more details circle NED-974 E7 on enclosed inquiry slip ▲



TYPICAL TACHOMETER TESTS:
Generators • Motors—Electrical and Gasoline • Lathes • Looms • Steam Turbines • Milling Machines, and many others.

TOTCO

Chronometric Tachometers

Guarantee ACCURACY To $\frac{1}{10}$ of 1%

BUILT TO NAVY SPECIFICATIONS, Totco Tachometers measure with *guaranteed* accuracy.

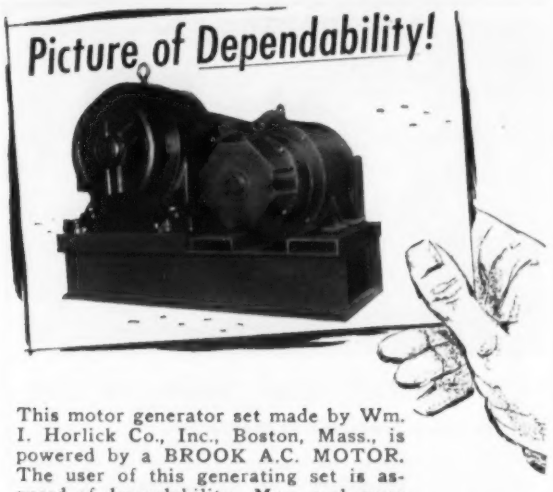
PRECISION MANUFACTURE, EXCLUSIVE DESIGN, STURDY CONSTRUCTION insure trouble-free service, long life. Built-in timing mechanism.

ABSOLUTE GUARANTEE for one year against defects in material and workmanship.

TECHNICAL OIL TOOL CORPORATION
Manufacturers of Precision Instruments
1057 North La Brea Avenue, Los Angeles 38, California

▲ For more details circle NED-975 E7 on enclosed inquiry slip ▲

Picture of Dependability!



This motor generator set made by Wm. I. Horlick Co., Inc., Boston, Mass., is powered by a BROOK A.C. MOTOR. The user of this generating set is assured of dependability. More and more manufacturers of electrically powered equipment are cutting costs and winning firm friends by powering with BROOK 1 to 600 H.P. MOTORS—*World's Most Respected Motor.* Send for Brochure.

• FAST DELIVERY OF ALL POPULAR MODELS!

Brook Motors are available from warehouse at Chicago, Dallas, Jersey City, Los Angeles, Memphis, St. Paul Salt Lake City, San Francisco, Atlanta, Seattle, Tampa and other major distributing points.

SINCE 1904 BROOK MOTOR CORPORATION

BROOK MOTOR CORPORATION
3553 W. PETERSON AVE., CHICAGO 45, ILL.

For more details circle NED-976 E7 on enclosed inquiry slip

New RIDGID 4PJ Geared Threader is now * JAM-PROOF

***Automatically Stops Threading After Standard Length Thread Is Cut**

Power drive threading is safe and easy with this new 4PJ—no more watching of either die stock or drive! 4PJ can't jam—drive pinion kicks out automatically after full thread is cut. Extra-easy to handle . . . mistake-proof workholder, no bushings . . . fully enclosed gears . . . RIDGID most-for-your-money—Buy new 4PJ at your Supply House!

RIDGID 400A Power Drive with Universal Drive Shaft operates 4PJ Threader on 2½" to 4" pipe held in Tristand Chain Vise, all RIDGID products.

The Ridge Tool Company, Elyria, Ohio, U.S.A.

RIDGID Work-Saver Pipe Tools

For more details circle NED-977 E7 on enclosed inquiry slip

New Processes & Materials

ALLOY BEARING STEEL
for operating temperatures to 500° F

Principal alloying elements of Bower 315 "native" alloy steel are 3 per cent nickel, 1½ per cent chromium and 5 per cent molybdenum. Imported components are not needed. Jet engine bearings made of this alloy by Federal - Mogul - Bower Bearings, Inc. will operate at temperatures up to 500° F. It recovers its original hardness when cooled to room temperature after heating as high as 1000° F. Readily machined, material is case hardened to give a surface hardness of 58-62 Rockwell C, with good wear resistance. Made by **Republic Steel Corp.,** Alloy Steel Div., Dept. ED, Massillon, O.

For more details circle NED-978 E7 on enclosed inquiry slip

CONVEYOR BELT CHAIN
of pintle type for woven wire belts

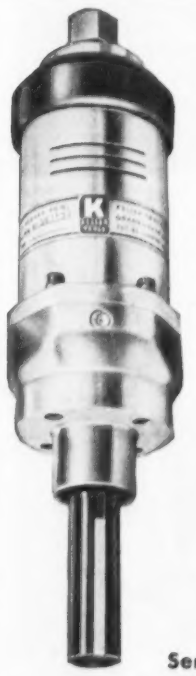
Heavy shoulder provides equal bearing surfaces at both the open and closed ends of the link in pintle type chain for woven wire conveyor belts. It is used where a chain drive is required to move heavy loads or to assure positive motion, such as through heat treating cycles or during inclined movement. Connecting pin is free-floating so that wear occurs around the full pin circumference, equalizing bearing stresses. Symmetrical link enables chain to operate on standard sprockets. Made by **Cambridge Wire Cloth Co.,** Dept. C, Cambridge, Md.

For more details circle NED-979 E7 on enclosed inquiry slip

NYLON ROD & PARTS
latter includes gears, spools, cams

Nylon rod and finished parts have been added to company's line of engineering materials. Nylon is offered in rod sizes from ¼ to 2-in. diameter in 3 to 6-ft lengths. Such mechanical parts as bearings, gears, cams, rollers, spools, worm wheels and bushings can be made. Nylon is a quality thermoplastic material combining good mechanical and electrical properties with excellent chemical resistance. Offered by **National Vulcanized Fibre Co.,** Dept. NED, 1057 Beech St., Wilmington 99, Del.

For more details circle NED-980 E7 on enclosed inquiry slip



AIR MOTORS never burn out

Run them to the limit all day long . . . start and stop them a thousand times . . . overload them till they stall—operating conditions will never burn out or damage one of these Keller Tool Rotary Vane Air Motors. Other popular features:

- Develop up to one full horsepower.
- Measure only 3¼" dia. x 13" long.
- Variable speed from zero to 1200 rpm.
- Center or offset spindle.
- Non-sparking . . . safe for hazardous spots.

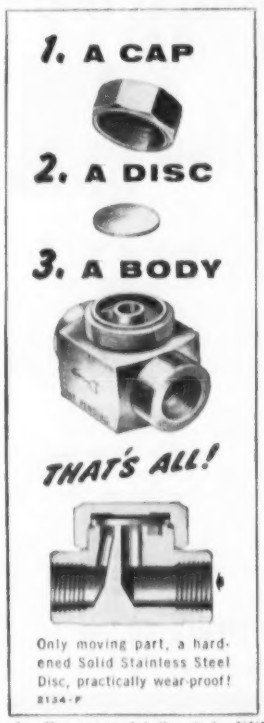
Send for Bulletin 71.

Gardner-Denver Company
Quincy, Illinois

THE QUALITY LEADER IN COMPRESSORS, PUMPS, ROCK DRILLS AND AIR TOOLS FOR CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

For more details circle NED-981 E7 on enclosed inquiry slip

NEW-REVOLUTIONARY STEAM TRAP defeats wear-corrosion!



This NEW Sarco Thermodynamic Steam Trap virtually eliminates maintenance. Stainless steel throughout. Only one moving part.

No valve-closing mechanisms to wear or stick. Not affected by superheat, water-hammer, vibration, corrosive condensate. No critical clearances to choke. No gaskets to leak. Same trap for all loads and pressures 10-600 psi.

Write for bulletin 255-44 or a TD trap for a 60-day trial installation. Specify size and application.

SARCO COMPANY, INC.
EMPIRE STATE BLDG., N.Y. 1, N.Y.

For more details circle NED-982 E7 on enclosed inquiry slip

UNION Roller Coaters are designed for *ALL* coating jobs!

Union Roller Coaters efficiently apply paint, adhesives, lacquer, glue, compounds—*any* fluid substance—to metal, veneer, plywood, fabric, rubber, paper, plastic—to *any* flat work.

Units feature heavy steel frames . . . easily regulated, precision control of fluid substances . . . self-aligning sealed ball bearings . . . drip-proof reservoirs.

Standard drive, 75 fpm . . . variable speed drive, geared-head motor and a wide assortment of other optional equipment are available. *Write for complete information.*

THE UNION TOOL CORPORATION
WARSAW, INDIANA
318 North Market Street

For more details circle NED-983 E7 on enclosed inquiry slip

Simple Arithmetic . . .

Type 302, Sheet Base Price 50.00 cents/lb.
Type 430, Sheet Base Price − 39.25 cents/lb.
Saving 10.75 cents/lb.

Now you can *SAVE* at least $215 PER TON in Stainless Steel Sheet Costs!

. . . Because Washington Steel, in answer to the current nickel shortage has taken two big steps forward:

1. Making available an adequate and dependable source of supply for Type 430 stainless steel.
2. Reducing the base price of MicroRold Type 430 sheets to provide you with a savings of $215 per ton as compared to Type 302 stainless sheets.

Write today for your copy, "Care and Use of 430 MicroRold Stainless Steel"

Washington Steel *Corporation*
58 WOODLAND AVE., WASHINGTON, PA.

For more details circle NED-984 E7 on enclosed inquiry slip

63300C

PHOTOELECTRIC CONTROLS for OUTDOOR LIGHTING

64401

Fisher-Pierce photoelectric controls provide dependable, automatic control of lights regardless of time of day, season or weather. Lights are switched on at the same daylight value each day, off when daylight returns. Non-mechanical, they never need setting or re-setting, even after power failures. The basic F-P circuit has proven dependable, rugged and trouble-free by more than nine years' use, in controlling lights on aircraft obstructions, signs and in store windows; in parking, loading and storage areas; in street lighting and other installations. Load capacities from 300 to 6000 watts; integral and auxiliary protective devices; wide variety of mounting arrangements; SPST, SPDT, DPST contacts; turn-on settings from 1 to 500 foot-candles.

Write for descriptive bulletins, outlining your requirements.

THE FISHER-PIERCE CO., INC.
86 PEARL STREET, BOSTON 85, MASS.

For more details circle NED-985 E7 on enclosed inquiry slip

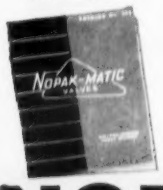
100% J.I.C. at no Extra Cost!

another Plus Value

SERIES 420
NOPAK-MATIC 4-Way Valve with Double Solenoid pilot.

... found in NOPAK-MATIC valves

- All models subplate mounted.
- Solenoid inoperative when cover is removed.
- Covers chained to valve.
- Splash- and dust-proof solenoid covers.
- Manual solenoid push-button.
- Positive pressure seals.
- Dryseal pipe threads.



CATALOG 105 describes in detail all of the new and important advantages of Nopak-matic valves. Your catalog will be forwarded *promptly*, upon request.

NOPAK VALVES and CYLINDERS

GALLAND-HENNING NOPAK DIVISION • 2755 S. 31st St., Milwaukee 46, Wis.

For more details circle NED-986 E7 on enclosed inquiry slip

Markal HEAT-PROOF COATINGS

Brush MARKAL Coating on piece of metal and apply direct flame of torch until metal is red hot. *Protective coating has not been impaired.*

MARKAL Coatings give you complete protection against steam, corrosion, scaling, oxidation at extreme heat—temperatures up to 2100°F.

Write for complete technical information and free sample ... state work conditions.

Markal COMPANY

3053 West Carroll Avenue • Chicago 12, Illinois

The Mark of Quality Protection—MARKAL!

For more details circle NED-987 E7 on enclosed inquiry slip

New Literature & Catalogs

Electromechanical Breadboard Parts

Helipot Corp.—24-page catalog 575 on standard electromechanical breadboard parts lists everything needed for developing servo prototypes or setting up test systems. Included are grid plates, shaft hangers, component hangers, shaft couplings, shaft hardware, shafting, limit stops, dial assemblies, gears and differentials, ball and disk integrators and magnetic clutches.

For more details circle NED-988 E7 on enclosed inquiry slip

Steel Building Construction

Armco Drainage & Metal Products, Inc.—The Steelox panel method of construction is featured by Armco steel buildings described in 8-page manual SX-14456. Some of the units described are the S-2 frameless, S-3 rigid frame, shed roof and utility structures. More than 5000 building sizes to meet every space need are available.

For more details circle NED-989 E7 on enclosed inquiry slip

Magnet Wire Trade Names

Essex Wire Corp., Magnet Wire Div.—16-page directory of current magnet wire trade names also gives brief general description of the physical, chemical and electrical characteristics and uses of ten general classifications. These include enamel, Formvar, self-bonding Formvar nylon, combinations of Formvar-nylon, solderable films, enamel Class B, silicone Class H, hermetic insulations and textile insulations.

For more details circle NED-990 E7 on enclosed inquiry slip

Air Control Valves

Galland-Henning Nopak Div.—Line of Nopak-matic pilot-operated poppet type air control valves described and illustrated in 16-page spiral-bound catalog 105 are available for two, three and four-way operation. They have master (air), single or double solenoid pilot control. Installation, application and operation data are included for models for ¼ to ¾-in. pipe sizes.

For more details circle NED-991 E7 on enclosed inquiry slip

Drill Press

Rockwell Mfg. Co., Delta Power Tool Div.—Drill presses for every production and shop need are described and illustrated in 12-page bulletin. Specifications are given for floor and bench, single and multiple spindle models in 20, 17, 15 and 14-in. basic sizes.

For more details circle NED-992 E7 on enclosed inquiry slip

Hermetic Electric Motors

General Electric Co.—How high speed production facilities, quality control and research are used in making hermetic motors for refrigeration and air conditioning industries are covered in 10-page illustrated bulletin GED-3060.

For more details circle NED-993 E7 on enclosed inquiry slip

TWEETEN Marker

THE PENCIL OF 1000 USES

DEPENDABLE DURABLE

Marks on any surface

Wet • Dry • Frozen

Soft • Hard • Rough

Heavy duty marking pencil with screw type feed. Neat and clean—always ready for instant use.

Extra long 3½" refills available in black, yellow, red, blue, green and white.

The choice of Industry.

Order from your Supplier

TweeTen Fibre Company

2029 W. Fulton St. Chicago 11, Ill.

For more details circle NED-994 E7 on enclosed inquiry slip

IT'S POWRARM RIGHT DOWN THE LINE

... At Power Products Co., Grafton, Wis.

Wilton PowRarms, placed every two feet on a 100' long conveyor, help Power Products Corporation assemble six gasoline engine models on a single line. PowRarms, which can be moved to any angle in all three planes, and locked in position, enable operators to adjust work pieces to any convenient angle of approach. The result is an exceptionally high rate of production on all models. **PowRarms** come in a wide range of automatic and manual models.

Attach this ad to your letterhead for a free demonstration or literature!

WILTON TOOL MFG. CO., INC.

NED-5 SCHILLER PARK, ILLINOIS

Sold by Leading Distributors The World Over

For more details circle NED-995 E7 on enclosed inquiry slip

UNION

Here's the "HOTTEST" AC Relay on the market—

New High-Temperature UNION AC Relay rated from −65°C. to 125°C., 115 Volt, 60 to 400 Cycles. Suitable for airborne circuits including jet planes and missiles.

Miniature relay applications are getting hotter all the time—and many of them call for self-contained AC relays.

To meet these needs, UNION has developed AC relays incorporating silicon rectifier assemblies. They'll withstand temperatures from −65° C. to 125° C. The size is the same as the 85° C. UNION AC Relay.

NEW HI-LOW CONTACTS, too! These contacts permit switching loads of two amperes or dry-circuitry level in the one relay. Or, you can get gold alloy contacts for dry-circuitry use.

OTHER ADVANTAGES

Vibration resistance up to 1,000 cycles at 15 G's and shock in excess of 50 G's.

Life expectancy. Tested through 1,000,000 operations.

Coil resistance. 3,700 ohms.

Small size, Lightweight. Measures only ½" higher than our DC relays and weighs about 5 oz. All other construction features are the same as the DC relay.

Types and Mountings. Available in 6 PDT or 4 PDT models, plug-in or solder-lug connections and all the usual mountings.

Meets or exceeds all requirements of MIL-R-5757-C, MIL-R-25018, and MIL-R-6106B.

Write for complete information. Ask for Bulletin 1012.

GENERAL APPARATUS SALES

UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

PITTSBURGH 18, PENNSYLVANIA

For more details circle NED-996 E7 on enclosed inquiry slip

Welcome words to a man who wants a flexible metal hose connector and wants it now, . . . not in days or weeks.

Packless now has, available from inventory, random lengths of seamless flexible, metal hose, in sizes ¼" to 1½" I.D., with appropriate fittings, brazed or mechanical, that you can stock and install *in your own plant.*

Find out more about this new "do-it-yourself" method of licking noise, vibration, expansion or any form of pipe travel by stocking Packless flexible metal hose in all required sizes *before* trouble develops.

For further details send for your copies of Bulletins DC and IND-4.

PACKLESS METAL HOSE INC.
730-39 South Columbus Ave., Mt. Vernon, N.Y.

▲ For more details circle NED-997 E7 on enclosed inquiry slip ▲

Precision Requires Special Treatment

— and gets it with FEDERAL DIAL GAGES

You have to gage a dimension a certain way if you want an accurate measurement. Just *any* gage is *not* good enough. That's why Federal makes so many different types of gages of the same general kind.

There are all degrees of accuracy required. And some need more gaging pressure, and some less, and some need narrow anvils and some wide. Some want to gage just a hole diameter and some want to know if it's round or if it tapers.

To find the gage you need — get in touch with us.

FEDERAL PRODUCTS CORPORATION
7175 Eddy St., Providence 1, R. I.

MANY OTHER TYPES
SEND FOR CATALOG

Ask **FEDERAL** *First*

FOR RECOMMENDATIONS IN MODERN GAGES . . .

Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-998 E7 on enclosed inquiry slip ▲

J & H Submersible Motor

meets diverse pumping conditions

- Operates in water. Can be easily modified to operate in gasoline, crude oil and many other fluids.
- Flexible length/diameter ratio to fit casing, tank, pipeline or pump-motor condition you specify.
- Long service life, low maintenance.
- Horsepower ratings from ½ thru 5 hp at 3450 rpm.

Send for Data!

For motor data, write on your company letterhead to: Jack & Heintz, Inc., 17629 Broadway, Cleveland 1, Ohio.

JACK & HEINTZ

▲ For more details circle NED-999 E7 on enclosed inquiry slip ▲

New Processes & Materials

THERMOSETTING PLASTIC repairs dents and holes in metal

Adhering tenaciously to iron, steel, aluminum, wood, glass and most plastics, Metaplastic thermosetting plastic is used to repair dents, holes, breaks and scratches. Unit of dark gray material consists of resin and hardener in paste form, mixed in equal volumes for filling about 115 cu in. It is unaffected by acids, alkalies, solvents, greases, heat or cold. Applied to a clean surface, it is cured by heat lamp, then sanded to contour prior to boring or turning, if necessary. Made by **United Laboratories, Inc.,** 16804 Euclid Ave., Cleveland 12, O.

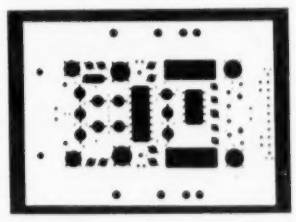
▲ For more details circle NED-1000 E7 on enclosed inquiry slip ▲

ADHESIVE PHOTO PAPER processed in normal manner

Photographs and other copy prepared on Presson photo paper are readily mounted on practically any surface merely by stripping the protective cover from the adhesive backing of the paper and applying print where desired. The self-adhering backing allows it to be stripped off and re-applied to another surface. Available in contact and projection speeds, paper can be processed readily and dried in 60 seconds. Cut sheets range in size up to 40 x 40 in. Exposure can be done on practically any standard equipment, including small photo-letter-composing machines. Dimensional stability adapts paper for engineering, drafting and layout work. Made by **Grant Photo Products, Inc.,** 19001 Detroit Ave., Cleveland 7, O.

▲ For more details circle NED-1001 E7 on enclosed inquiry slip ▲

METAL STAMPING PROCESS makes possible die changes



Any part over 2 in. square can be blanked, pierced, sheared, punched, formed and notched by the Rapid-Tooling process for economical small to large production runs. Aluminum and magnesium up to ¼-in. thick and steel or special steel alloys up to 3/16-in. thick can be processed. Tolerances to 0.003-in. are practical at any production rate. Relocation or resizing of holes and other changes are quickly and economically made without scrapping dies. Process is suited for chassis, brackets and panel work. Service available from **Insuline Corp. of America,** Dept. NE, 186 Granite St., Manchester, N. H.

▲ For more details circle NED-1002 E7 on enclosed inquiry slip ▲

EVER DROP A 20 POUND SLEDGE ON YOUR TOE?

If so, you have a slight idea of the force exerted by one blow of a small Cleveland Bin Vibrator. Just imagine this happening 10,000 times per minute. That's what can be expected from the smallest of our air vibrators, the 1" type F and if you need real brute force, there are seven larger sizes.

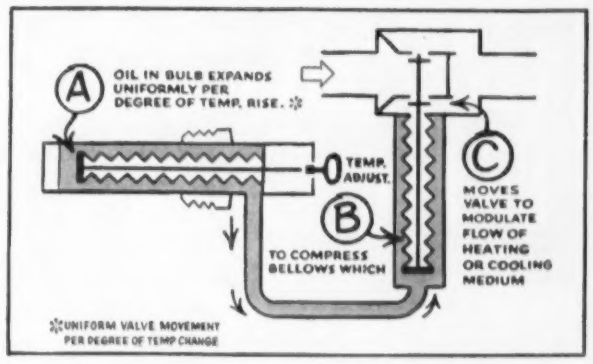
You can see why stuck bins get unstuck in a hurry. The beauty of it is that when properly mounted these vibrators deliver the punch of a stevedore with absolutely no damage to the bin.

Write for further details

Air or Electric • Portable or Permanent
Noiseless or Standard

THE CLEVELAND VIBRATOR CO.
2744 Clinton Avenue Cleveland 13, Ohio

▲ For more details circle NED-1003 E7 on enclosed inquiry slip ▲



Automatic Self-powered Temperature Control

AS SIMPLE AS A-B-C!

½" size—only about $100

A simple thermostat—a length of tubing—a valve. That's all! That's the trouble-free design of the Sarco SELF-POWERED temperature control.

1. Simple, inexpensive, dependable, effective.
2. No gadgets that take a technician to read and repair!
3. Self-contained—no exposed mechanism. Packless valve.
4. Self-powered—no compressed air or electricity needed.
5. Not affected by cross-ambient temperatures or elevation of the bulb.
6. Thousands give accurate service . . . for firms such as Colgate-Palmolive Co., Sinclair Refining Co., Swift & Co.

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SARCO

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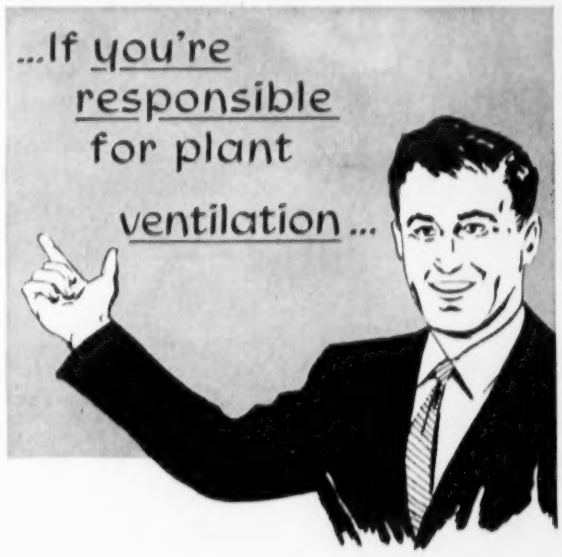

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PH & PHD Pent House Units

CHELSEA FAN & BLOWER CO., INC.
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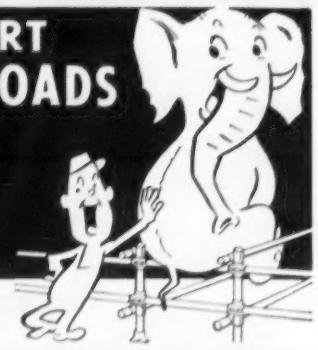

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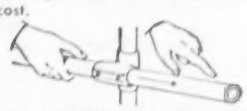

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Descriptions, illustrations and prices on 11,130 items of laboratory and scientific glassware are included in 234-page technical glassware catalog TG-15. Sections are devoted to Bantam-ware small organic glass apparatus, vacuum apparatus, Forever Amber volumetric ware and stopcocks. Write on company letterhead to Kontes Glass Co., Dept. P-83, Vineland, N. J.

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Materials Handling Truck Wheels

Greer Industries, Inc.—Load capacity, resilience, durability and reduction in truck power consumption brought about by use of Disowheels on material handling trucks are outlined in brochure. Details of an on-the-job test are given.

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Safety Turn Bar

Guibert Steel Co.—Super-R-Guy safety turn bar for shop, yard or warehouse use in turning steel plates and shapes is described in illustrated bulletin BS-257. Chisel end permits separating plates. Maximum grip is on ¾-in. thick plates or shapes.

For more details circle NED-1011 E7 on enclosed inquiry slip

Conveyor & Elevator Belts

Raybestos-Manhattan, Inc., Manhattan Rubber Div. —General service heavy duty types of conveyor belts with special strength members are detailed in illustrated catalog 25 CB. Tension ratings for vulcanized and metal splices, minimum recommended pulley diameters and minimum belt width for good troughing are covered, along with line of hot material belts for 150 to 350° F.

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Chemical Industry Facts

Fifteen chapters on subjects ranging from "the industry's role in the economy" to "chemical and nuclear energy" are contained in the 160 pages of "The Chemical Industry Facts Book." It includes many charts, graphs and tables and updates information on virtually every facet of the industry. A 20-page teacher's guide is also offered (free). Facts book is available for $1.25 from Manufacturing Chemists' Association, 1625 Eye St. N.W., Washington 6, D. C.

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Heat Treating Research

Selas Corp. of America—"An Approach to Interpretive Research" is a 24-page bulletin (S-1053) which describes investigations that bridge the gap between basic theory and practical application. Company investigates basic problems of combustion chemistry, flame geometry, heat transfer patterns and rates, principles of capillary physics and surface chemistry. Laboratory facilities described are available on a contract research basis.

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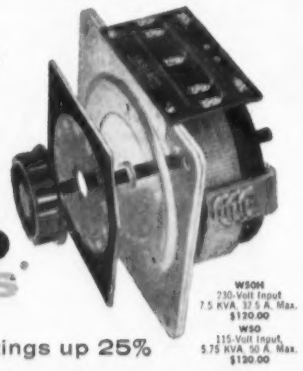

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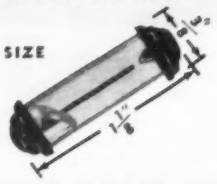

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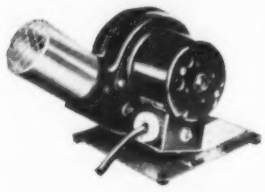

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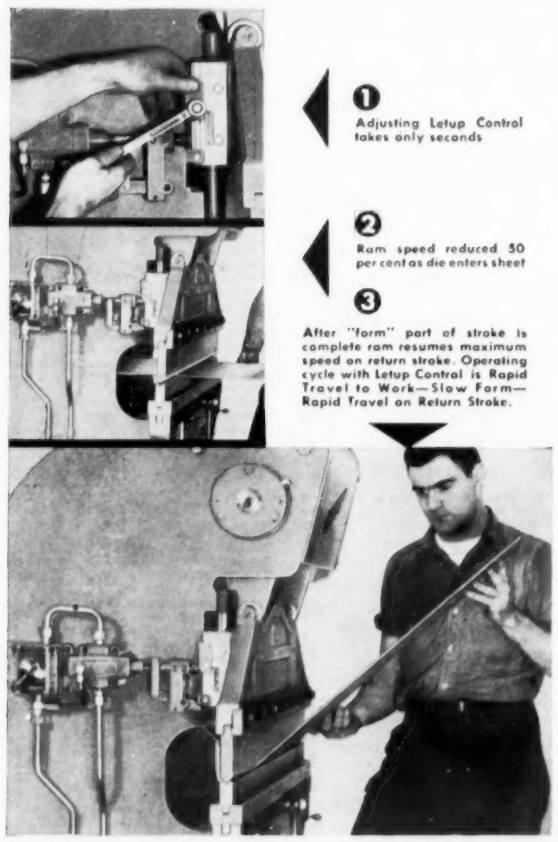

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High Temperature Alloys

Carpenter Steel Co.—Engineering properties and fabrication characteristics of ten high strength alloys for elevated temperature service are detailed in 20-page booklet. Physical constants, mechanical properties, heat treatment, forging, cold working and other data are presented, along with recommended uses for each alloy.

▲ For more details circle NED-1022 E7 on enclosed inquiry slip ▲

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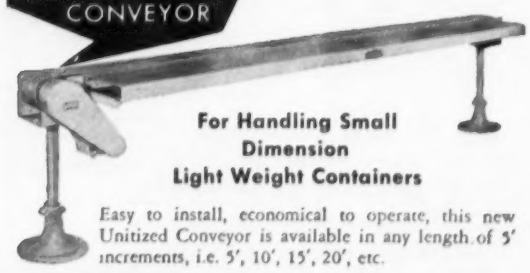

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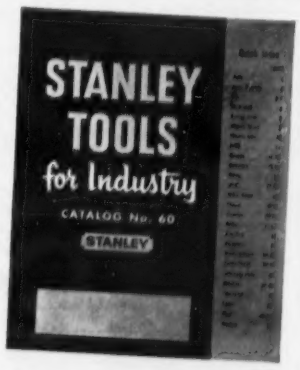

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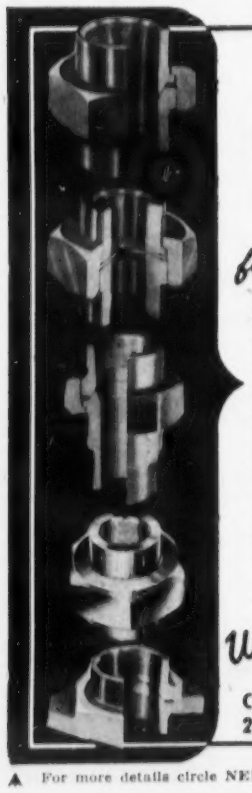

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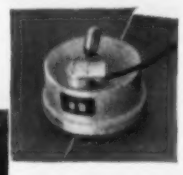

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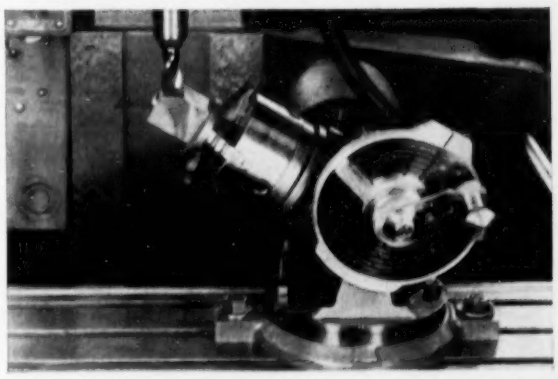

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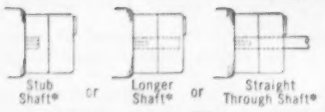

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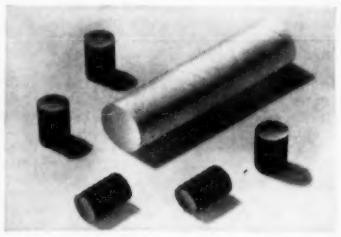
PAPER TUBES
protect shafts, bars, parts



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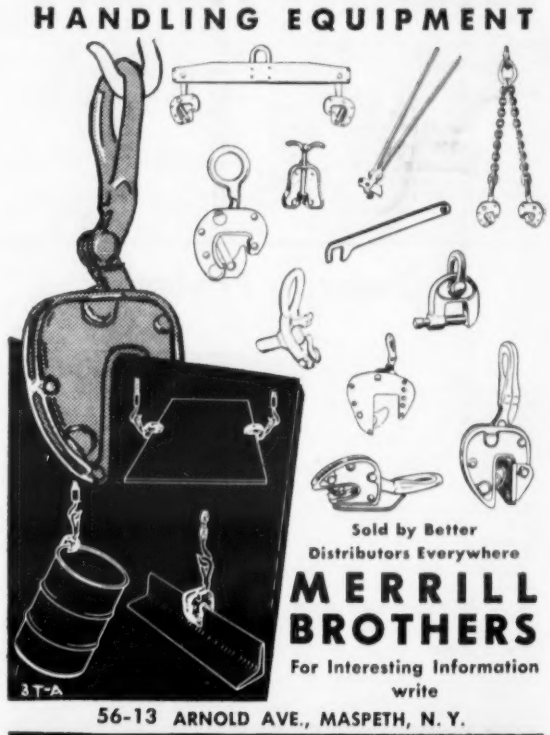

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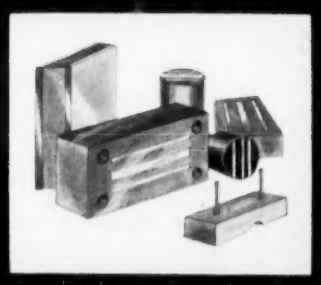

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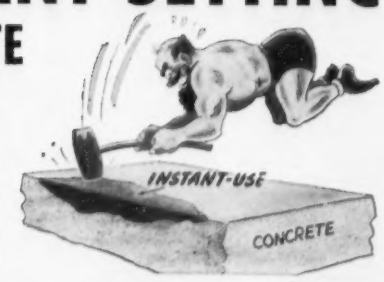
▲ For more details circle **NED-1042 E7** on enclosed inquiry slip ▲

INSTANT SETTING CONCRETE FLOOR PATCH



TEST IT ON TRIAL OFFER

TOUGH AS NAILS! FAST!

Repair broken factory floors without the usual traffic tie-up. Simply shovel INSTANT-USE into hole or rut — tamp smooth — truck over! No waiting! INSTANT-USE bonds tight to old concrete — right up to a feather edge. It's tough. Wears like iron. Won't crack or crumble. Install complete overlay where floors are badly chewed up. Used indoors or out. Immediate shipment.

MAIL COUPON for TRIAL OFFER and FREE BROCHURE

INSTANT-USE

FLEXROCK COMPANY (Offices in principal cities)
3603 Filbert St., Philadelphia 1, Pa.

Please send me complete INSTANT-USE information, details of TRIAL ORDER PLAN and Free INSTANT-USE BROCHURE—no obligation. (Clip and attach Coupon to Co. letterhead.)
Name
Title
Company
Address

▲ For more details circle **NED-1043 E7** on enclosed inquiry slip ▲